

C-8.0 CONSTRUCTION

C-8.1 Introduction

The Permittees regulate construction activities and have responsibility for the construction and reconstruction of municipal facilities and infrastructure. Concern over construction sites as a major source of sediment and other pollutants has meant that construction activity has been a focus of the Permittees' compliance program since the First Term Permits.

The purpose of DAMP Section 8.0 is to establish requirements and guidelines for pollution prevention methods that must be used by construction site owners, developers, contractors, and other responsible parties, in order to protect water quality from discharges as a result of construction site activities. Specifically, it requires all construction projects regardless of size to implement an effective combination of erosion and sediment controls and waste and materials management BMPs. To ensure that the Program is implemented, each jurisdiction conducts inspections before the rainy season to verify the appropriateness and implementation of BMPs and takes enforcement action as necessary. Training is provided annually to support consistent countywide implementation.

C-8.2 Accomplishments

C-8.2.1 Model Construction Program

This Model Construction Program has been implemented since the 2002-03 reporting period.

- Inventory construction sites

The Permittees maintain inventories of construction sites. These inventories are not tracked on a Countywide level.

- Prioritize construction sites based upon water quality threat

During 2011-12, the Permittees reported 8,966 construction sites on their inventory, comprising 1,737 high priority sites, 437 medium priority sites and 6,792 low priority sites (**Table C-8.1**).

- Prepare BMP Guidance

The Permittees have produced a *Construction Runoff Guidance Manual* and it is available at www.ocwatersheds.com. Updates to the manual were initiated in 2011-12 and a final updated manual will be available in late 2012. Updates will include providing consistency with the Construction General Permit (Order 2009-0009-DWQ) and incorporation of: 2004-05 Erosion Control BMP Field Evaluation; guidance on dewatering activities; and guidance on small

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construction sites. The manual formed a basis for the pre-wet season construction training held on September 29 and October 6, 2011.

CASQA updated their California Stormwater BMP Handbook for Construction in November 2009 and the updated BMP Factsheets provide additional, up-to-date guidance for the Permittees.

- Conduct Inspections of Construction Sites

Of the 8,966 construction sites inspected by the Permittees during the reporting period, 274 sites were found to be out of compliance, resulting in a total of 357 re-inspections (**Table C-8.2 and Figure C-8.1**).

- Undertake Enforcement

As a result of the 2011-12 inspections, the Permittees reported issuing 315 educational letters, 340 notices of non-compliance, 11 administrative compliance orders, 5 cease and desist orders, and no misdemeanor/infractions for a total of 671 enforcement actions (**Table C-8.3 and Figure C-8.2**).

- Conduct Training

To assist responsible municipal and contract/lease staff in understanding the Construction Program, two training modules have been developed:

- 1) Construction Program Management.
- 2) Inspecting Construction Site BMPs.

Pre-wet season construction inspection training was provided to inspectors on September 29 and October 6, 2011. Approximately 270 staff attended this training.

Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP) training was provided to NPDES Program staff and construction inspectors on May 24, 29 and June 5, 2011. Approximately 50 staff attended this training.

Although the Permit requirements between the Third and Fourth Term Permits remain largely the same for construction activities, the Principal Permittee drafted Permit Implementation Guidance Memos specific to the Model Construction Program (one each for the Santa Ana and San Diego Regions) highlighting the differences as interim guidance until the DAMP is finalized and adopted, which is expected to occur in spring 2013.

C-8.3 Assessment

The current and potential Program effectiveness Assessment Outcome Levels for the current program are summarized in **Table C-8.4**.

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C-8.3.1 Model Construction Program

Inventories

The year-to-year status of the Permittees' inventories are not tracked at a countywide level and consequently this aspect of the model program must be assessed at a jurisdiction level.

Prioritization

The Permittees prioritize construction sites based upon a consideration of the size and type of construction, time of construction, location, and site topography. There continues to be inconsistent jurisdictional prioritization (**Table C-8.1 and Figure C-8.1**) although in some cases this represents the unilateral decision of a number of Permittees to give all construction sites a high priority designation.

Inspection

The Permittees inspect construction sites to verify that the requirements of the DAMP are being implemented. The inspection frequency is determined by the season ("Wet" or "Dry") and a site's prioritization. The need for follow-up inspections also contributes significantly to the overall level of activity within a reporting period.

Headline Indicator - Inspection Activity: In 2011-12, the Permittees inspected 1,737 high priority sites, 437 medium priority sites, and 6,792 low priority sites. In 2010-11, the Permittees inspected 2,331 high priority sites, 574 medium priority sites, and 6,514 low priority sites. In 2009-10, 1,456 high priority, 705 medium priority, and 6,699 low priority construction sites were inspected; in 2008-09, 556 high priority, 2,084 medium priority, and 8,540 low priority construction sites were inspected; and in 2007-08, 2,156 high priority, 1,401 medium priority, and 12,015 low priority construction sites were inspected (**Table C-8.1 and Figure C-8.1**).

Level 1: Documenting Stormwater Program Activities

In preparing the ROWD, the Permittees indicated that the re-inspection obligation is not sufficiently sensitive to the severity of the non-compliance, and at the same time Regional Board staff expressed a concern that the mandated level of follow-up activity may be discouraging findings of non-compliance. While the Permittees had previously intended to "clarify inspection frequencies, violation definitions and re-inspection requirements," the specific requirement of the Santa Ana Fourth Term Permit (Section VIII.5.b) to conduct follow-up inspections weekly until compliance is restored, effectively preempts this intent for North Orange County.

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Enforcement

Inspectors implement the Model Construction Program by enforcing compliance with grading or building permits, sediment and erosion control plans, and the Water Quality Ordinance. The enforcement actions that may be taken by inspectors include, but are not limited to, verbal warnings, administrative actions under the Water Quality Ordinance (notice of violation, administrative compliance order, etc.) and written actions under Building/Grading Ordinances (corrective action notice, stop work order, etc.).

Headline Indicator - Extent of Compliance: In 2011-12, 274 construction sites were found to be out of compliance, which resulted in 357 sites requiring re-inspection. In 2010-11, 462 construction sites required 529 re-inspections; during 2009-10, 467 construction sites required 570 re-inspections; during 2008-09, 838 construction sites required 1,326 re-inspections; and in 2007-08, 1,124 constructions sites required 1,137 re-inspections (**Table C-8.2 and Figure C-8.3**).

- Level 1: Documenting Stormwater Program Activities
- Level 3: Changing Behavior

Headline Indicator - Number and Level of Enforcement Actions: Arising from the 2011-12 inspections, there were 671 enforcement actions, comprising 315 Educational Letters, 340 Notices of Non-compliance, 11 Administrative Compliance Orders, 5 Cease and Desist Orders, and no Misdemeanor/Infractions. In 2010-11 the Permittees reported taking a total 979 enforcement actions, comprising 784 Educational Letters, 172 Notices of Non-compliance, 19 Administrative Compliance Orders, 3 Cease and Desist Orders, and 1 Misdemeanor/Infraction. In 2009-10, the Permittees reported taking a total of 940 enforcement actions, compared to 497 enforcement actions in 2008-09 and 1,321 enforcement actions taken in 2007-08 (**Table C-8.3 and Figure C-8.2**).

- Level 1: Documenting Stormwater Program Activities
- Level 3: Changing Behavior

The number and type of enforcement activities vary greatly from year to year; however, the percentage of construction sites out of compliance drops from 10.9% in 2008-09 to 5.0% in 2009-10, and steadily drops each subsequent year (4.9% in 2010-11 and 3.1% in 2011-12). This suggests an increased level of compliance within the regulated community, which may be attributable to the long term impact of inspection program, new guidance published by CASQA, and the implementation of the new Statewide Construction General Permit requirements, including new requirements for a QSD to prepare a construction site's SWPPP, and a QSP to ensure that the SWPPP is being correctly implemented.

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In consideration of the number and type of enforcement actions, there are differences between jurisdictions which suggest opportunities for improving enforcement consistency and reporting on a countywide basis.

2012-13 Program Focus:

- Complete update of the Orange County Construction Runoff Guidance Manual to be consistent with the new Construction General Permit (SWRCB Order No. 2009-0009-DWQ). The update to the manual will also include incorporation of the Erosion Control BMP Field Evaluation that was performed by RBF in 2004-2005 and will provide guidance on dewatering activities for construction sites and guidance for small construction sites.
- Review the Enforcement Consistency Guide and provide further guidance to the Permittees on the use and reporting of the different types of enforcement actions.

Training

The Permits require that staff is adequately trained. In response, the Permittees developed two training modules and a guidance manual and additionally provide annual pre-wet season training. Furthermore, a new training program based on core competencies for Construction Inspectors (public and private) will be deployed in FY 2012-13.

2012-13 Program Focus:

- Prepare training modules supportive of the specified expertise and technical competencies established for individuals in the *Construction Inspector* position.

C-8.4 Summary

The Third Term Permits have required the Permittees to develop and implement a formal inspection program commencing with an initial prioritized inventory of construction sites, and these efforts continue into the Fourth Term. Over the nine years prior to the current reporting period, there has been a decline in the number of construction sites out of compliance that, despite some uncertainties with respect to reporting, suggests increased BMP implementation and compliance with local water quality and grading/building ordinances by the regulated community. However, there is also the likely influence of the prevailing economic conditions which have produced a precipitous decline in overall construction activity. In 2012-13 the emphasis of the program development effort will be on developing training supportive of further development of staff expertise and implementation of the new requirements established by the Construction General Permit, which was adopted on September 2, 2009 and took effect on July 1, 2010.

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Table C-8.1: Construction Sites Inspected: Comparison of 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12

PERMITTEES	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW	LOW	LOW	LOW	LOW	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
	2007-08	2008-09	2009-10	2010-11	2011-12	2007-08	2008-09	2009-10	2010-11	2011-12	2007-08	2008-09	2009-10	2010-11	2011-12	2007-08	2008-09	2009-10	2010-11	2011-12
Aliso Viejo	8	9	6	6	4	0	0		0	0	99	120	147	129	102	129	153	135	135	106
Anaheim	1	1	5	2	3	18	20	2	1	5	713	547	391	294	265	568	398	297	297	273
Brea	0	3	1	6	3	8	7	0	1	1	19	33	42	24	16	43	43	31	31	20
Buena Park	0	9	12	8	11	10	118	79	4	7	1,347	936	1,160	375	882	1,063	1,251	387	387	900
Costa Mesa	21	7	1	3	3	12	12	0	0	0	77	4	0	18	78	23	1	21	21	81
Cypress	6	2	14	2	0	14	3	0	64	0	292	227	137	221	225	232	151	287	287	225
Dana Point	11	7	1	0	3	25	9	14	11	4	544	524	654	771	525	540	669	782	782	532
Fountain Valley	0	0		0	3	2	2	1	0	2	37	37	66	45	32	39	67	45	45	37
Fullerton	0	0		0	0	9	5		6	8	1,741	5		905	1,483	10	0	911	911	1,491
Garden Grove	0	0	0	0	0	16	11	0	0	0	0	0	16	40	43	11	16	40	40	43
Huntington Beach	32	88	13	75	49	35	34	4	11	17	470	354	442	291	182	476	459	377	377	248
Irvine	33	28	16	38	30	64	29	23	27	25	31	23	23	24	21	80	62	89	89	76
La Habra	2	5	12	4	2	4	0	6	0	2	243	93	44	30	39	98	62	34	34	43
La Palma	4	0	1	1	0	1	0	0	0	0	0	1	1	0	1	1	2	1	1	1
Laguna Beach	25	14	10	14	0	88	34	62	34	0	3	6	6	0	0	54	78	48	48	0
Laguna Hills	162	214		0	0	0	0	1	1	1	0	0	294	271	245	214	295	272	272	246
Laguna Niguel	98	9	0	0	0	267	1,030	9	2	1	3,139	3,612	1,226	1,841	1,397	4,651	1,235	1,843	1,843	1,398
Laguna Woods	1	2	0	DNR	1	0	1	0	DNR	0	13	9	2	DNR	5	12	2	0	DNR	6
Lake Forest	0	0	0	3	5	16	15	9	5	13	169	172	249	170	190	187	258	178	178	208
Los Alamitos	0	0	0	DNR	DNR	2	0	0	DNR	DNR	62	81	18	DNR	DNR	81	18	0	DNR	DNR
Mission Viejo	79	72	51	80	38	301	175	152	113	194	0	0	0	0	0	247	203	193	193	232
Newport Beach	20	30	68	67	57	7	28	42	0	0	682	564	620	258	351	622	730	730	325	408
Orange	1	1	0	0	5	5	12	0	6	0	487	194	43	100	100	207	43	106	106	105
Placentia	0	0	DNR	DNR	DNR	3	3	DNR	DNR	DNR	3	3	DNR	DNR	DNR	6	0	DNR	DNR	DNR
Rancho Santa Margarita	0	2	1	2	8	2	0	0	0	0	361	137	81	52	83	139	82	54	54	91
San Clemente	3	3	3	3	11	372	417	239	252	141	0	0	0	0	0	420	242	255	255	152
San Juan Capistrano	39	20	11	6	DNR	45	39	27	2	DNR	358	340	200	19	DNR	399	238	238	27	DNR
Santa Ana	5	1	2	0	40	41	65	7	9	0	69	76	37	0	0	142	46	9	9	40
Seal Beach	3	0	2	0	0	3	0	2	0	2	222	151	164	168	113	151	168	168	168	115
Stanton	0	0	0	0	0	2	4	6	3	1	123	97	42	60	75	101	48	48	63	76
Tustin	16	25	10	0	1	16	0	10	9	8	1	0	15	5	7	25	35	14	14	16
Villa Park	0	0	0	0	0	0	0	0	0	0	104	41	67	22	23	41	67	22	22	23
Westminster	0	0	0	0	0	5	7	4	8	3	589	150	372	324	297	157	376	332	332	300
Yorba Linda	8	4	8	11	9	8	4	6	5	2	17	3	140	57	12	11	154	73	73	23
County of Orange/OCFCD	1,578		1,208	2,000	1,451	*See explanation below	*See explanation below	*See explanation below	*See explanation below	*See explanation below	*See explanation below	*See explanation below	*See explanation below	*See explanation below	*See explanation below	1,578	0	1,208	2,000	1,451
Totals	2,156	556	1,456	2,331	1,737	1,401	2,084	705	574	437	12,015	8,540	6,699	6,514	6,792	12,758	7,652	9,228	9,419	8,966

DNR = Did Not Report - See individual Permittee PEA

* The database system the County uses to track construction inspections does not differentiate between high, medium, and low priority construction sites; therefore, all sites are classified as "high" priority.

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Table C-8.2: Inspection Results: Comparison of 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12

PERMITTEES	2007-08		2008-09		2009-10		2010-11		2011-12	
	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance
Aliso Viejo	20	20	5	5	5	5	10	10	5	5
Anaheim	52	99	85	130	45	80	5	8	6	6
Brea	1				4	0	1	1	1	3
Buena Park	73	30	24	39	16	17	10	8	13	10
Costa Mesa	4	8	7	14	1	7	1	4	14	28
Cypress	18	18	18	18	3	10	8	8	17	21
Dana Point	54	54	57	57	13	13	45	45	23	28
Fountain Valley	7	7	7	7	0	0	4	4	6	12
Fullerton	7	7	7	7			1	1	0	0
Garden Grove	2	2	3	1	12	6	15	12	8	7
Huntington Beach	33	12	24	1	10	1	18	9	20	8
Irvine	29	29	16	16	6	6	2	2	0	0
La Habra	82	82	35	6	3	17	11	7	6	8
La Palma					0	0	0	0	0	0
Laguna Beach			7	7	2	1	4	1	0	0
Laguna Hills	19	19	19	19	25	25	14	14	4	4
Laguna Niguel	266	266	400	810	8	20	25	25	13	30
Laguna Woods					0	0	DNR	DNR	1	1
Lake Forest	18	22	8	8	30	30	17	17	5	5
Los Alamitos	1	1	1	1	2	2	DNR	DNR	DNR	DNR
Mission Viejo	49	67	35	60	24	34	19	95	28	65
Newport Beach	39	39	24	28	18	22	8	8	10	10
Orange	3	3	2	2	1	1	0	0	2	4
Placentia							DNR	DNR	DNR	DNR
Rancho Santa Margarita	9	4	5	5	5	5	0	0	6	14
San Clemente*							DNR	DNR	N/A	N/A
San Juan Capistrano	67	67	16	16	8	8	11	11	DNR	DNR
Santa Ana	6	9	6	7	4	7	0	0	2	2
Seal Beach	8	8	3	3	7	7	1		2	2
Stanton	1	1	1	1	5	5	2	2	0	0
Tustin	15	15	8	13	18	35	2	3	3	4
Villa Park	12	12	2	2	11	11	1	1	0	0
Westminster	5	12	10	35	4	12	8	16	7	14
Yorba Linda			3	8	6	12	9	7	8	3
County of Orange/OCFCD	224	224			171	171	210	210	64	63
Totals	1,124	1,137	838	1,326	467	570	462	529	274	357

DNR = Did Not Report - See

* [San Clemente] Construction site violations are accounted for under Section C-10 (when violations are identified, the construction inspectors call the City's enforcement staff for the enforcement follow-up).

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Table C-8.3: Enforcement Action Taken: Comparison of 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12

PERMITEES	FY 2007-08					FY 2008-09					FY 2009-10					FY 2010-11					FY 2011-12				
	Administrative Remedies				Criminal Remedies	Administrative Remedies				Criminal Remedies	Administrative Remedies				Criminal Remedies	Administrative Remedies				Criminal Remedies	Administrative Remedies				Criminal Remedies
	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrcr	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrcr	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrcr	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrcr	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrcr
Aliso Viejo	2	4	20			5					17	0	12	0	0	3	0	7	1	0	3	2	2	4	0
Anaheim	51	1				85					62	1				3	2	0	1	0	6	1	0	0	0
Brea											3	1	0	0	0	1	0	0	0	0	0	1	0	0	0
Buena Park	30	73	6		1	22	16	3			1	13	2	2	0	399	5	2	0	0	3	11	0	0	0
Costa Mesa			4					7			1					8	1	0	0	1	14	0	0	0	0
Cypress		18					16					13				8	0	0	0	0	5	0	0	0	0
Dana Point*	25	24		6	1	6	49			2	4	8	2			*	45	0	0	0	1	18	4	0	0
Fountain Valley	4		2	2		4		2	2		NA	NA	NA	NA	NA	4	0	1	0	0	6	0	1	0	0
Fullerton	5	15					4			1	5	19	6	0	0	1	1	0	0	0	11	0	1	0	0
Garden Grove	1	2	2				3	1			17	1	1	0	0	11	1	0	1	0	19	1	1	1	0
Huntington Beach	50	57	30				19	28				8	11			0	13	5	0	0	15	4	1	0	0
Irvine		29					16				11	6	0	0	0	21	2	0	0	0	14	0	0	0	0
La Habra	1	1	0	0	0	35					7	2	0	0	0	11	0	0	0	0	18	6	0	0	0
La Palma											12					0	0	0	0	0	0	0	0	0	0
Laguna Beach							2				3	2	1	0	1	2	1	1	0	0	0	0	0	0	0
Laguna Hills	29	0	0	0	0	18	1				24	1				14	4	0	0	0	4	0	0	0	0
Laguna Niguel		266					13				28	0	0	0	0	32	1	0	0	0	33	0	0	0	0
Laguna Woods											1	0	0	0	0	DNR	DNR	DNR	DNR	DNR	0	1	0	0	0
Lake Forest		16					8				46	16	1	0	0	16		1			2	3	0	0	0
Los Alamitos	1	1				1	1				NA	NA	NA	NA	NA	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Mission Viejo		62					27				26	14	0	0	0	87	8	0	0	0	45	22	0	0	0
Newport Beach		20	9				24	7				22	4			0	7	1	0	0	0	10	0	0	0
Orange		1		2			2				0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Placentia		2	6				2	5	2		NA	NA	NA	NA	NA	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Rancho Santa Margarita				5		5					7	4	0	0	0	0	0	0	0	0	0	0	0	0	0
San Clemente**	34	20		11	21		13				120	13	35			**	**	**	**	**	**	**	**	**	**
San Juan Capistrano	38	27	1	4		15	1				0	38	0	0	0	0	11	0	0	0	DNR	DNR	DNR	DNR	DNR
Santa Ana		3					2				7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seal Beach		7	1				3				7	0	0	0	0	1	0	0	0	0	2	0	0	0	0
Stanton		3					1				4	1	1	0	0	2	0	0	0	0	0	0	0	0	0
Tustin		15					1				21	10	0	0	0	0	2	0	0	0	0	4	0	0	0
Villa Park	15	2				2	2				17	3	2	1	0	6	1	1	0	0	0	0	0	0	0
Westminster		5					10				15	3	0	0	0	8	3	0	0	0	0	6	1	0	0
Yorba Linda						3					18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
County of Orange/OCFCD		226	1								10	171	0	0	0	146	64	0	0	0	114	250	0	0	0
Totals	286	900	82	30	23	201	236	53	4	3	487	370	78	4	1	784	172	19	3	1	315	340	11	5	0

DNR = Did Not Report - See individual Permittee PEA

* [Dana Point] Per revised LIP verbal warnings are effective, obtain compliance while on site and not documented by written record. AC = Citations

** [San Clemente] Construction site violations are accounted for under Section C-10 (when violations are identified, the construction inspectors call the City's enforcement staff for the enforcement follow-up).

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Table C-8.4 Current and Potential Outcome Levels (Construction)

Construction Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Document Stormwater Program Activities	Raise Awareness	Change Behavior	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain inventory					
Prioritization	✓ Assign priorities					
Inspection	✓ Conduct and track number of inspections		^P # BMPs implemented	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Conduct enforcement		✓ Extent and correction of problem resulting from enforcement			
Training	✓ Track number/type of training sessions	^P Surveys of trainees show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

Figure C-8.1 Construction Site Inspections & Prioritizations, 2007-08 to 2011-12

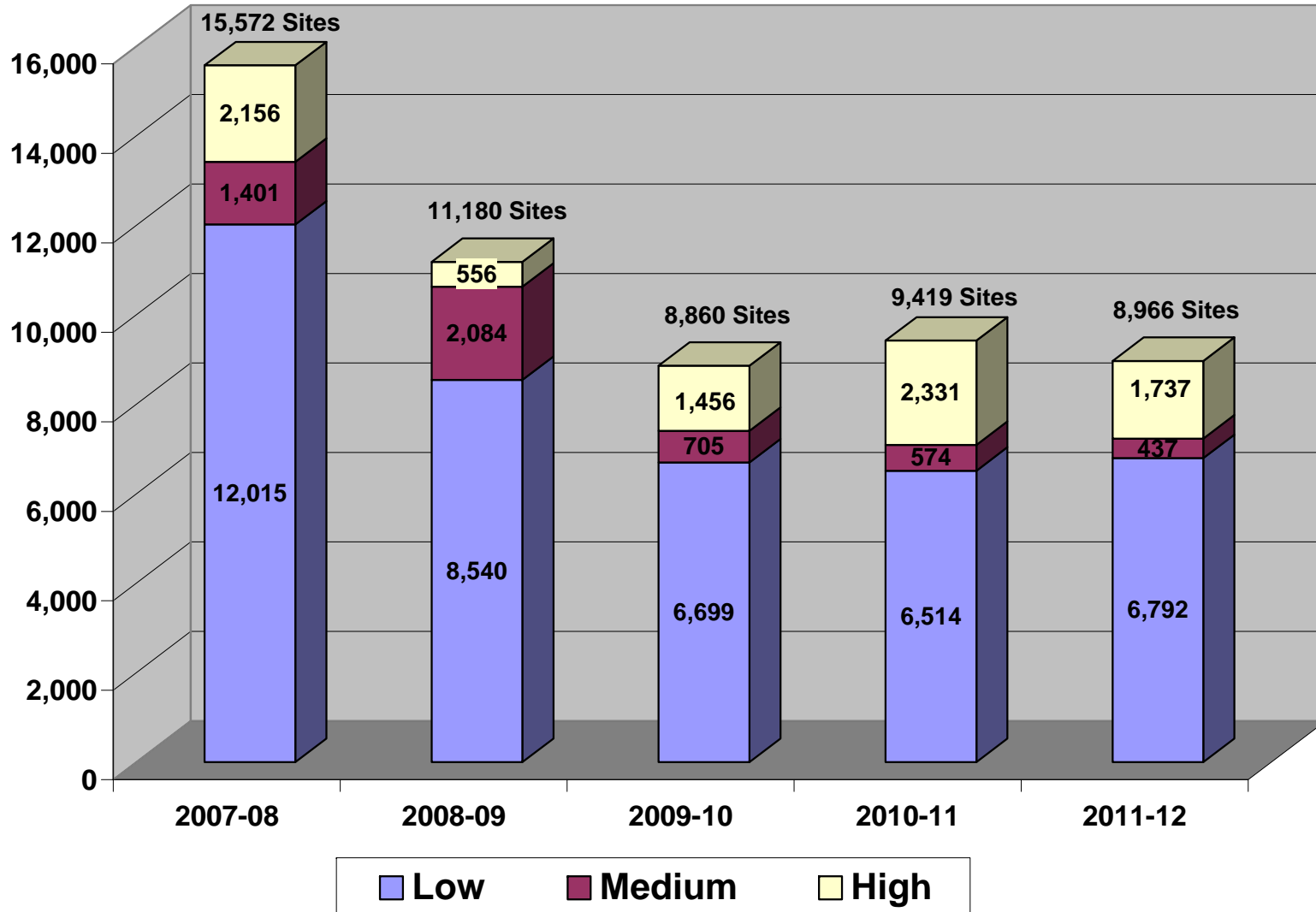


Figure C-8.2: Enforcement Actions Taken, 2007-08 to 2011-12

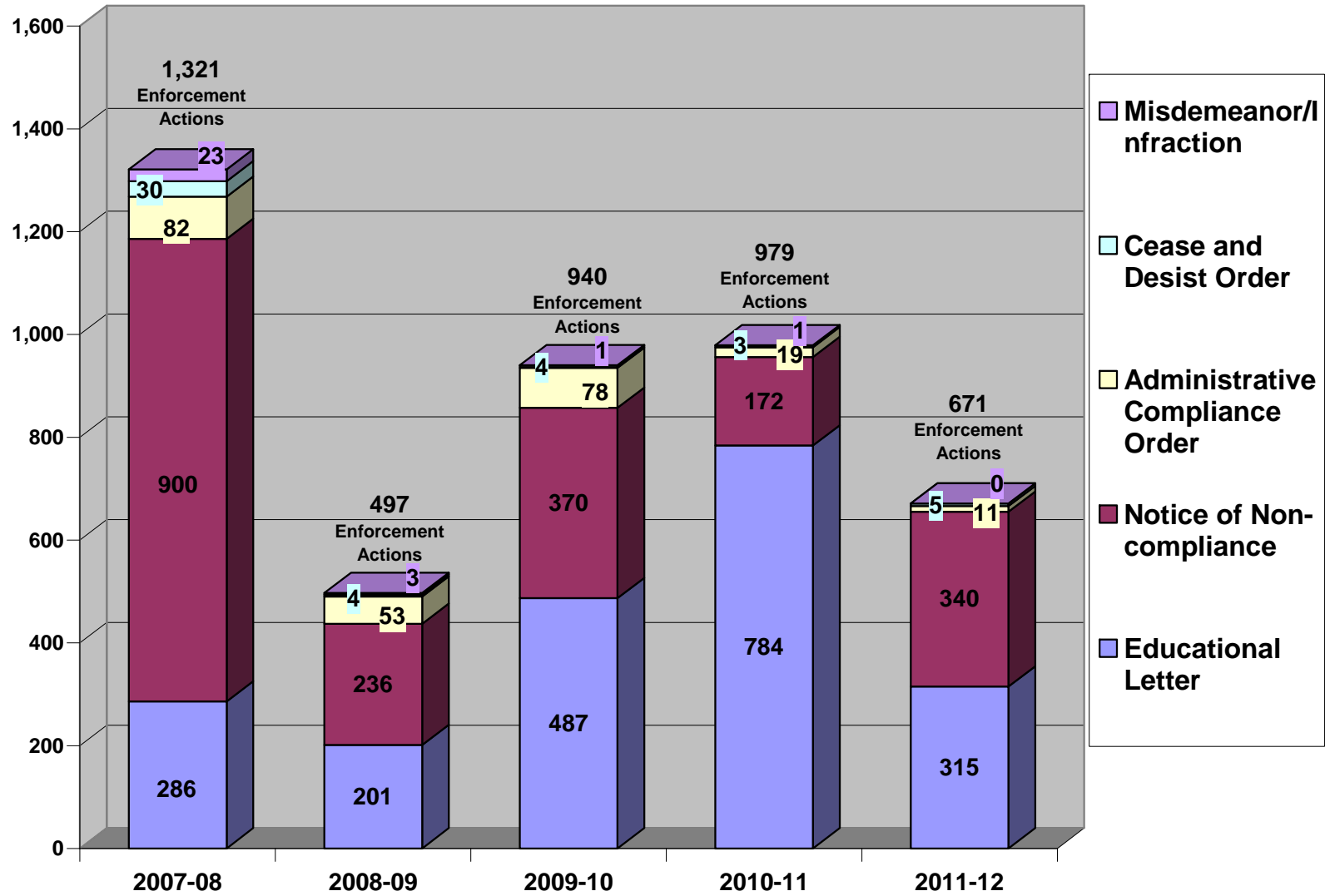


Figure C-8.3 Construction Site Compliance Inspections, 2007-08 to 2011-12

