



A CM Approach to SWPPP COMPLIANCE

Mitchel Whitson
mitch@whitsoncm.com

Introduction

- Mitchel Whitson
- Whitson Contracting & Management, Inc.
 - ▣ Founded 2002
- SWPPPOnline.com
 - ▣ Founded 2014

- Cal Poly SLO – Construction Management
 - ▣ 1989...

Customers

- Owner or Developer
- Stakeholders
 - ▣ Utility Providers
 - ▣ Transportation Districts
 - ▣ Water Boards
 - ▣ Environmental Requirements and/or Mitigation Items
- ALL PARTIES MUST BE 100% SATISFIED

CM's Role & Responsibilities

- Owner's Representative
 - ▣ Advocate
 - Protect their interests
 - Protect their money
 - ▣ Expert
 - Provided a specific task or project
 - ▣ Protect the owner (and stakeholders)
 - Financially
 - Contractually
 - From future liability

CM's Role & Responsibilities

- Develop the Project
 - ▣ Manage Design Consultants
 - ▣ Manage Stakeholders
 - Municipalities
 - Utility providers
 - Other Permits (e.g. Water Boards)
 - ▣ Develop Scopes of Work
 - ▣ Budget the Project
 - ▣ Develop Schedules
 - Work Plans
 - Schedules
 - Phasing

CM's Role & Responsibilities

- Project Construction
 - ▣ Under Budget
 - ▣ On Schedule
 - ▣ Safety, Safety, Safety, Safety, Safety
 - ▣ Minimize Liabilities

- MANAGE PERMIT COMPLIANCE
 - ▣ Primary Permitting Agency
 - ▣ Environmental Permits
 - Many will Impact Scopes and Schedules of Work

CM's Role & Responsibilities

- Project Completion
 - ▣ Finalize Scopes of Work
 - ▣ Project Acceptance
 - Municipalities
 - Utility Providers
 - Landscape Acceptance
 - Begin Maintenance Activities
 - Permits
 - Be Certain to get ALL Permits Accepted and Terminated
 - Maintenance Requirements

Planning and Estimating

- MUST ADDRESS THIS AT THE TIME OF BIDDING
 - ▣ Sufficient Mobilizations
 - Even if Not Defined Add Additional Mobilizations
 - After the Fact - \$2,500 to \$25,000
 - ▣ Low Bid Mentality
 - Contractors Will Minimize Impacts of Mobilizations
 - Adding Money Reduces Chances of Getting the Job
 - ▣ Include SWPPP Maintenance and BMP Items
 - For All Trades
 - Include “Repair by G/C Language”
 - Include Time to Repair Deadlines

Schedules

□ Scheduling is the most important BMP

SureTrak Project Manager - [La Costa Condos - Update 2]

File Edit View Insert Format Tools Define Window Help

Layout: La Costa - Filter: All - All activities Lower views: [Icons]

1934 14AUG10 Sat

Act ID	Description	Orig Dur	Early Start	Early Finish
1000	City Pre-con Meeting	1	08JUL10	08JUL10
1010	Inclinometers - Clear	2	13JUL10	14JUL10
1020	Inclinometers - Grade Access Road	1	15JUL10	15JUL10
1030	Inclinometers - Drill	3	16JUL10	20JUL10
1040	Inclinometers - Set Inclinometers	2	21JUL10	26AUG10
1050	Inclinometers - Monitoring	15	06AUG10	26AUG10
1060	Slope Dewatering - Temporary Ditch	2	16JUL10	19JUL10
1070	Slope Dewatering - Toe Trench Drain	2	14JUL10	15JUL10
1080	Verdura Wall - Design O'DAY	7	08JUL10	16JUL10
1090	Verdura Wall - Design SOIL RETENTION	10	19JUL10	30JUL10
1100	Verdura Wall - Design Permit	15	02AUG10	20AUG10
1110	Earthwork - Slope Stage #1 Cut (to dry)	1	13SEP10	13SEP10
1120	EW - Stage #1 Fill (from N Butt) (w drains)	1	14SEP10	14SEP10
1130	Earthwork - Slope Stage 2 Cut (to dry)	2	15SEP10	16SEP10
1140	Earthwork - Slope Stage #2 Fill (from N Butt)	5	17SEP10	23SEP10
1150	Earthwork - Slope Stage 3 Cut (to dry)	2	24SEP10	27SEP10
1160	Earthwork - Slope Stage #3 Fill (from N Butt)	5	28SEP10	04OCT10
1170	Earthwork - Slope Stage 4 Cut (to dry)	2	05OCT10	06OCT10
1180	Earthwork - Slope Stage #4 Fill (from N Butt)	5	07OCT10	13OCT10
1190	Earthwork - Slope Stage 5 Cut (to dry)	2	14OCT10	15OCT10
1200	Earthwork - Slope Stage #5 Fill (from N Butt)	5	16OCT10	22OCT10
1210	Earthwork - Slope Stage 6 Cut (to dry)	2	25OCT10	26OCT10
1220	Earthwork - Slope Stage 6 Fill to BOW	5	27OCT10	02NOV10
1230	Verdura - Stage 6 with Fill	5	03NOV10	08NOV10
1240	Earthwork - Stage 6 fill to complete	3	10NOV10	12NOV10
1250	Earthwork - Stage 7 Cut (to dry)	2	15NOV10	16NOV10
1260	Earthwork - Stage 7 to BOW	3	17NOV10	19NOV10
1270	Verdura - Stage 7	2	22NOV10	23NOV10
1280	Earthwork - Stage 7 fill to complete	2	24NOV10	29NOV10
1290	Earthwork - Stage 8 Cut	2	30NOV10	01DEC10
1300	Earthwork - Stage 8 Fill	3	02DEC10	06DEC10
1330	Earthwork - Stage 9 cut	1	07DEC10	07DEC10
1360	Earthwork - Stage 9 fill to complete	3	08DEC10	10DEC10
1370	Earthwork - Repair Area Cut	1	13DEC10	13DEC10
1390	Earthwork - Repair Area to complete	3	14DEC10	16DEC10
1400	TieBack - Design DRILLTECH	15	08JUL10	28JUL10
1410	TieBack - Design AGI	15	09JUL10	19AUG10
1420	TieBack - Design Permit	10	19AUG10	01SEP10
1430	TieBack - Grade Access Road	2	16SEP10	17SEP10
1440	TieBack - Drill and Set	4	20SEP10	23SEP10
1450	TieBack - Anchor Block Repair	2	24SEP10	27SEP10
1460	TieBack - Anchor Block Shotcrete	2	28SEP10	29SEP10
1470	TieBack - Anchor Shotcrete Cure	15	30SEP10	20OCT10
1480	TieBack - Tension Anchors	2	21OCT10	22OCT10
1490	Earthwork - TieBack Area Cut	2	17DEC10	20DEC10
1510	Earthwork - TieBack Area Grading	5	21DEC10	26DEC10
1520	Earthwork - Stage 10 Cut	2	29DEC10	30DEC10
1550	Earthwork - Stage 10 fill to complete	5	03JAN11	07JAN11
1560	CMU South Slope - Block	2	10JAN11	11JAN11
1570	CMU South Slope - Foundation	5	12JAN11	18JAN11
1571	CMU South Slope - Block	10	19JAN11	01FEB11
1572	CMU South Slope - Grout	1	02FEB11	02FEB11
1573	CMU South Slope - Cure	3	03FEB11	07FEB11
1574	CMU South Slope - H2O proof & drain	3	08FEB11	10FEB11
1575	CMU South Slope - Backfill	5	11FEB11	17FEB11
1580	Drainage Ditches - Slope Stages 1-5	5	13DEC10	17DEC10
1590	Drainage Ditches - Stage 6 thru prev repair	5	20DEC10	27DEC10
1600	Drainage Ditches - Stage 7 Tie-back - 10	5	10JAN11	14JAN11
1610	Irrigation - Slope Stages 1-5	5	02DEC10	27DEC10
1620	Irrigation - Stage 6 thru previous repair	5	03FEB11	09FEB11
1630	Irrigation - Stage 7 thru prev repair	5	10FEB11	16FEB11

ID 1934 CMU Middle - Block Close Previous Next

Duration [3] Started Early Start 22MAR11 Rem Duration [3] Details...

Calendar [1] Finished Early Finish 24MAR11 % Complete [0.0] More >>

La Costa Condominiums - Site Work 17MAY11 Condos - L F/B

Inbox - Microsof... Sirius XM - Wind... Microsoft Excel Microsoft Power... Illustration SureTrak Project ... 10:06 AM

Schedules

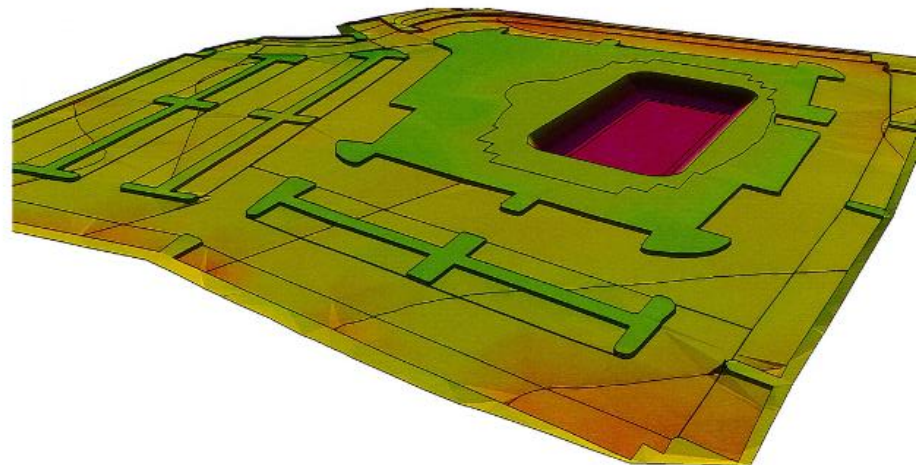
- Phasing/Staging Work
 - ▣ Develop Earthwork Models

Job: NICU grad w basmt cut
Units: FL-CY
Fri Jan 16, 2009 14:20:25 Page 1

Volume Report
Subgrade vs. Existing

	Area			Volume		CompRatio		Compact		Export	Change	
	Total	Cut	Fill	OnGrade	Fill	Cut	Fill	Cut	Fill			
Bldg. Pad	22,996	11,341	11,531	84	3,920	523	1.00	1.00	3,920	523	-3,397	85
Heavy Duty (4%)	39,612	17,948	11,973	8,691	456	161	1.00	1.00	456	161	295	143
Island	2,205	0	2,205	0	0	195	1.00	1.00	0	165	-165	8
Island	2,114	0	2,113	1	0	148	1.00	1.00	0	148	-148	8
Island	2,592	0	2,592	0	0	150	1.00	1.00	0	150	-150	10
Island Bldg	31,305	0	31,305	0	-4	-1,771	1.00	1.00	-4	-1,771	-1,775	116
Island Sub:	38,206	0	38,205	1	-4	2,234			-4	2,234	-2,238	142
Parking (3%)	35,594	13,212	19,780	2,592	453	415	1.00	1.00	453	415	38	132
Standard duty (3%)	23,064	4,060	16,172	2,812	81	322	1.00	1.00	81	322	-241	85
Regions Total	158,422	46,581	97,661	14,180	4,906	3,655			4,906	3,655	1,251	687
Unspecified	12,418	2,155	6,563	3,700	28	196	1.00	1.00	28	196	-168	46
Job Total	170,840	48,736	104,224	17,880	4,934	3,851			4,934	3,851	1,083	633

Sectional Qty's	Plane	Slope	Depth	Volume
	Area	Area		
Heavy Duty (4%)	38,612	38,686	1.583	2,268
Island	2,682	2,687	0.000	0
Island	2,114	2,114	0.000	0
Island	2,205	2,207	0.000	0
Island Bldg	54,261	56,390	0.000	0
Island Sub:	61,162	63,298		0
Parking (3%)	35,564	35,816	1.250	1,668
Standard duty (3%)	23,064	23,123	1.417	1,214
Sectional Total	158,422	160,925		5,140



Schedules

- Phasing/Staging Work
 - ▣ Require Multiple Mobilizations by Trade

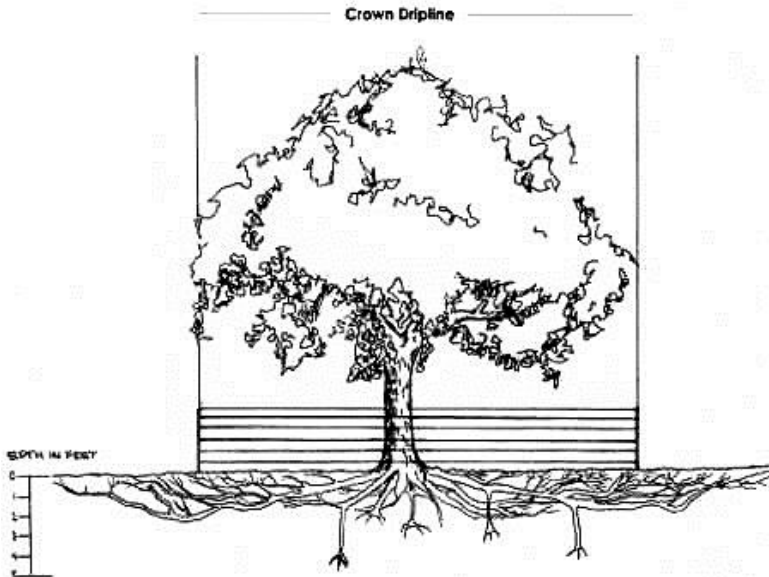


Schedules

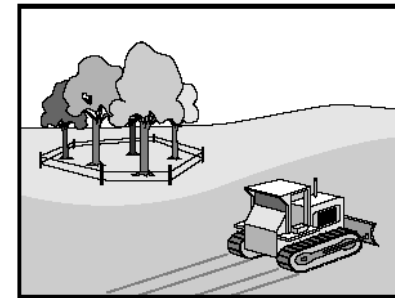
- Phasing/Staging Work
 - ▣ Clear ONLY Areas Required to Complete Scope
 - Provides Cover to Prevent Erosion
 - Root Structure Binds Soils
 - ▣ Limit Demo of Hardscape Surfacing
 - Use Vertical Edges as Sediment Control Devices
 - ▣ Drainage Scopes of Work First
 - Deep Sanitary Sewer Crossings Install MH to MH
 - Check Invert Elevations at Tie-Ins
 - Cross Section ALL Crossings
 - Drainage Ditches

Schedules

- Preserve Existing Vegetation
 - Tree Protection
 - Erosion Control
 - Dissipates Raindrops
 - Protects against wind-throw



Preservation Of Existing Vegetation EC-2



Categories	
EC	Erosion Control <input checked="" type="checkbox"/>
SE	Sediment Control
TC	Tracking Control
WE	Wind Erosion Control
NS	Non-Stormwater Management Control
WM	Waste Management and Materials Pollution Control
Legend:	
<input checked="" type="checkbox"/>	Primary Objective
<input checked="" type="checkbox"/>	Secondary Objective

Targeted Constituents	
Sediment	<input checked="" type="checkbox"/>
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives	
None	

Description and Purpose

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses that protect soil from erosion.

Suitable Applications

Preservation of existing vegetation is suitable for use on most projects. Large project sites often provide the greatest opportunity for use of this BMP. Suitable applications include the following:

- Areas within the site where no construction activity occurs, or occurs at a later date. This BMP is especially suitable to multi year projects where grading can be phased.
- Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
- Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc. These areas are usually designated on the plans, or in the specifications, permits, or environmental documents.
- Where vegetation designated for ultimate removal can be temporarily preserved and be utilized for erosion control and sediment control.

Limitations

- Requires forward planning by the owner/developer,






Schedules

- Phasing/Staging Work
 - LS Planting and Irrigation
 - IMMEDIATELY UPON COMPLETION OF SLOPE TRACKING
 - 99.9% of Slope Planting Require Fabric (SC-150)
 - Require Placement Prior to Planting
 - Highline Irrigation
 - Planting and Establishment (70% to Close Permit)
 - Hydroseed Application Timing
 - Hydroseed Mixes
 - Adjustments can be Made to Get Early Growth
 - Contract Work While Achieving SWPPP Compliance

Documentation

□ DOCUMENT, DOCUMENT, DOCUMENT

- Are Your Reports Defendable?
- Can You Prove Your Site is Compliant?
 - Next Month?
 - Next Year?
- The Quality & Detail Of Your Documents Will Win or Lose the Battle

Requirement	Yes	No	N/A	Comments	Corrective Action Required?
Are there any areas where the temporary linear sediment barriers need maintenance?	✓			<p>There was some erosion noticed on the haul roads. Recommend that the built up sediment is removed and the rolls re-installed.</p>  <p>Recommend additional fiber rolls check dams on the haul road at the entrance.</p> 	Yes
Storm Drain Inlet Protection					
Are storm drain inlets internal to the project properly protected with inlet protection?	✓			Inlets and outlets are protected with inlet protection.	No
Are storm drain inlet protection devices in working order and being properly maintained?	✓			Inlets are maintained.	No
Are there any inlets that are not protected or require maintenance?	✓			<p>A couple inlets on the West side of the project need the silt fence barrier repaired.</p> 	Yes

Training

- Train and Re-Train
 - ▣ Pre-Construction
 - For ALL Contractors Not Just Site Contractors
 - ▣ Every Individual Must be Required to be Trained
 - Similar to Job Site Safety
 - Educate Everyone About Financial Impacts
 - Frequent Offenders WILL be Removed from the Project
 - ▣ Include into Daily Reports
 - BMP Maintenance Items
 - Notify G/C of Damaged BMPs Before Work Starts

Erosion and Sediment Control

- When determining BMPs, remember what you are trying to achieve or control:

- ▣ Stop erosion



- ▣ Control Sediment





Thank You

Mitchel Whitson, President
mitch@whitsoncm.com
(858) 583-2186

www.whitsoncm.com

For easy professional reporting (performed in-house)

www.swppponline.com