



**SENIOR PROJECT PROGRAM- CM DEPARTMENT**  
**SENIOR PROJECT PROPOSAL FORM**

**Instructions:** Prior to admission to CM462 students must complete this form in detail to the satisfaction of both the SPD (Senior Project Director) and self-chosen SME (Subject Matter Expert). Expect multiple renditions of this document to occur prior to final acceptance, which must be achieved before the ADD/DROP date for the quarter submitting. Failure to achieve this final acceptance in time will likely result in attempting this process again next quarter.

**REQUESTING PRELIMINARY FACULTY PROJECT APPROVAL:**

Check this box if CM faculty approval of a senior project proposal is required.  
 General CM faculty approval necessary for any "questionable" projects which might not meet the criteria outlined by the website or by the SPD.

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**STUDENT INFORMATION:**

Student Name:	Ethan Lin
Student ID #:	#025667752
Student Address:	935 Avalon Ave, SF, CA 94112
Student E-mail:	elin17@calpoly.edu
Student Phone:	415-889-0115
CM460 (complete with passing grade)	Spring/2022
CM462 (planned admission)	Winter/2023
Graduation Date (expected)	Spring/2023

Proposed SME (Subject Matter Expert)	Dan Knight
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**PROJECT TYPE:**

Type of Senior Project Proposed:	Project Based
Type of SP (Identify Sub-Category):	Build a Construction Project
Working Title of Senior Project:	United Methodist Children's Center Drainage Renovation
Organization of Project:	Group
If Group Identify Other Students:	Andy Abdelnour / Construction Management
	Name / Major
	Name / Major

## **SENIOR PROJECT DETAILS (ANY SENIOR PROJECT TYPE):**

**Project Description:** The project is a demolition and repours of the existing concrete drain on the North East side of the UMCC. The location of the drain/curb is adjacent to the Schweitzer Hall facing the Church.

**Purpose / Objectives / Goals:** The purpose of the project is to redo the existing drainage and remove some of the existing trip hazards for the preschoolers. The goal is to redo the existing drain, and curb, and ad additional drainage to the end of the walkway. The goal is to create a level drain with the existing walkway to remove the trip hazards.

**Student Topic Interest (why):** I wanted to work on this type of project because I wanted to do something that would benefit the SLO community. I did not find a research topic particularly interesting, and I am trying to learn more about the construction process and specifically concrete. I believe a smaller concrete project such as this will give me a good first step into managing a construction project and learning more about the concrete building process.

**Benefit to Student / CM Industry:**

I think the experience of estimating, scheduling, and planning this concrete project which will include, demolition, formwork, rebar, and finishing, all in an area with limited accessibility will challenge Andy and me enough to grow in our knowledge and skills. The project also makes the UMCC a safer place for students some of whom are the children of Cal Poly CM faculty. With donations from construction companies, the community of SLO will also view these companies more favorably, improving the relationship between the community and contractors.

### **Funding Needed for Project and Source:**

We are going to need funding to buy the materials for the project which will be shown in the estimate. The total amount of funding needed is estimated to be \$1,502.50  
We are expecting donations from Cal Portland for the concrete. The UMCC also has access to funding.

**Professional Contacts Assisting:** Dan Knight / Company  
Liz Harland / UMCC  
Name / Company

**NOTE: All projects requiring funding in order to be executed MUST have written documentation attached to this form demonstrating that funding is place.**

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**PROJECT BASED DETAILS (ONLY):**

Who is the client/beneficiary of project: United Methodist Children's Center

What is your roll (and others) in project: To create an estimate, schedule, logistics plan, and Safety plan to redo part of the existing drainage for the United Methodist Children's Center. This will include helping with the demolition, concrete pour, safety precautions, and concrete finishing.

What are the final deliverables of project: A new drainage slab, curb, and removal of trip hazards.

Potential Project Risks and Challenges: Some potential challenges of the project include getting the concrete down into the walkway as well as not damaging the existing walkway. Another challenge would be finishing the drainage in a way which it slopes correctly.

Assurance project is realistic (time, \$, etc.) Paragraph(s)

My part of the project **Ethan Lin**

- Estimate for the project
- Scheduling
- Site Logistics Coordination
- Owner Communications and Relations
- Preconstruction
- Procurement
- Materials
- Equipment Acquisition

**NOTE: All projects requiring a permit in order to be executed MUST have the permit attached to this form demonstrating that the permit is placed and approved.**

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## **WORK PLAN (ANY SENIOR PROJECT TYPE):**

### Work Plan Description:

Regularly Scheduled Meetings with SME: Planning on weekly meetings on Friday at 10 AM with SME throughout the quarter until the project is complete.

1/13/23 / 10:00 AM-11:00 AM

1/20 /23/ 10:00 AM-11:00 AM

1/27/23/10:00 AM-11:00 AM

2/3/23/10:00 AM-11:00 AM

2/10/23/10:00 AM-11:00 AM

### Project Milestones and Timeline:

Milestone: Finish Proposal / January 13<sup>th</sup>, 2023

Milestone: Get Proposal Approved / January 20<sup>th</sup>

Milestone: Complete Project Schedule/ January 22<sup>nd</sup>

Milestone: Complete Site Prep / January 27<sup>th</sup>

Milestone: Complete Demo Existing Drainage/Curb / February 3<sup>rd</sup>

Milestone: Complete Pour, Place, and Finish Concrete Drain and Curb / February 10<sup>th</sup> -11<sup>th</sup>-12<sup>th</sup>

### Proposed Schedule of Completion:

Complete Site Prep / January 27<sup>th</sup>

Complete Demo Existing Drainage/Curb / February 3<sup>rd</sup>

Complete Pour, Place, and Finish Concrete Drain and Curb / February 10<sup>th</sup>



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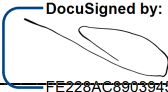
**CONTRACT:**

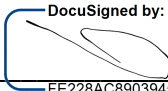
I (Ethan Lin) hereby request consideration, acceptance, and approval of the above senior project proposal by the SPD and the SME. I am committed to complete the CM462 scope of work in the quarter registered as outlined in the senior project guidelines listed on the construction management website. If I do not complete this project in the quarter registered the SME may give me a NO PASS or INCOMPLETE or REPORT PENDING grade for CM 462, as appropriate. I understand that at minimum I must re-register for the course in which I received a NO PASS in order to complete my senior project. It is further understood that a revised project proposal may also be required. As required by the University, non-completion of CM462 will result in a grade of F and a potential graduation delay. **NOTE: All senior projects shall be submitted to digital commons. Any submission deemed of "poor quality" by the SME may still receive a passing grade but may not be published in digital commons.**

Ethan Lin		1/19/23
Student Name (Print)	Student Signature	Date

**APPROVAL:**

The SPD and SME signature on this documents indicates acceptance of this student's senior project proposal and authorizes the student to receive a permission number for CM462 from the main office.

Dan Knight		1/19/2023
SME (Print)	SME Signature	Date

Dan Knight		1/19/2023
SPD (Print)	SPD Signature	Date



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**STUDENT INFORMATION:**

Student Name:	Andy Abdelnour
Student ID #:	#025340620
Student Address:	
Student E-mail:	aabdelno@calpoly.edu
Student Phone:	(562) 822-1270
CM460 (complete with passing grade)	Spring/2022
CM462 (planned admission)	Winter/2023
Graduation Date (expected)	Spring/2023

Proposed SME (Subject Matter Expert)	Dan Knight
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**PROJECT TYPE:**

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Working Title of Senior Project:	United Methodist Children's Center Drainage Renovation
Organization of Project:	Group
If Group Identify Other Students:	Ethan Lin / Construction Management
	Name / Major
	Name / Major

## **SENIOR PROJECT DETAILS (ANY SENIOR PROJECT TYPE):**

**Project Description:** The project is a demolition and repours of the existing concrete drain on the North East side of the UMCC. Between the main office and room

**Purpose / Objectives / Goals:** The purpose of the project is to redo the existing drainage and remove some of the existing trip hazards for the preschoolers. The goal is to redo the existing drain, and curb, and ad additional drainage to the end of the walkway. The goal is to create a level drain with the existing walkway to remove the trip hazards.

**Student Topic Interest (why):** I wanted to work on this type of project because I wanted to do something that would benefit the SLO community. I did not find a research topic particularly interesting, and I am trying to learn more about the construction process and specifically concrete. I believe a smaller concrete project such as this will give me a good first step into managing a construction project and learning more about the concrete building process.

### **Benefit to Student / CM Industry:**

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### **Funding Needed for Project and Source:**

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### **Professional Contacts Assisting:**

Dan Knight / Company

Name / Company

Name / Company

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**PROJECT BASED DETAILS (ONLY):**

Who is the client/beneficiary of project: United Methodist Children's Center

What is your roll (and others) in project: To create an estimate, schedule, logistics plan, and Safety plan to redo part of the existing drainage for the United Methodist Children's Center. This will include helping with the demolition, concrete pour, safety precautions, and concrete finishing.

What are the final deliverables of project: A new drainage slab  
Potential Project Risks and Challenges: Some potential challenges of the project include getting the concrete down into the walkway as well as not damaging the existing walkway. Another challenge would be finishing the drainage in a way which is slopes correctly.

Assurance project is realistic (time, \$, etc.) Paragraph(s)

My part of the project **Andy Abdelnour**

- Schematic design
- As-built drawings
- Equipment rental
- Demolition plan
- Concrete pours
- Concrete finishing
- Formwork plan
- Reinforcement plan
- Field coordination

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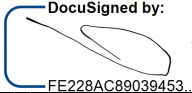
**CONTRACT:**

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Andy Abdelnour	<i>Andy Abdelnour</i>	1/19/23
Student Name (Print)	Student Signature	Date

**APPROVAL:**

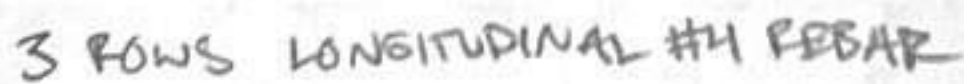
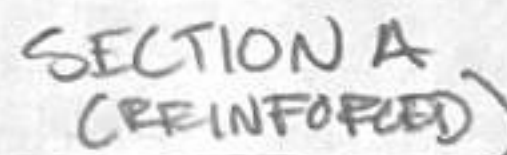
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Dan Knight		1/19/2023
SME (Print)	SME Signature	Date

Dan Knight		1/19/2023
SPD (Print)	SPD Signature	Date

UMCC Preschool Drainage Curb Project

Take Off					
Concrete					
Drain	Slab Thickness (ft) 0.5	Slab Length (ft) 75	Slab Width (ft) 2.5	Volume CY 3.472	
Curb	Width 0.33	Height 1	Cross-Sectional 0.33	Length of Curb 75	Volume CY 0.917
Total	Total CY 4.389	Waste Factor 30%	Total 5.71	Order 6 CY	Price Per CY \$150
Total Concrete Cost					\$900.00
Rebar					
Size 3 Grade 40					
Horizontal Rebar		Rows (@2' o.c.) 38	Length of rows LF 2.5	Total Horizontal Rebar (LF) 95	
Longitudinal Rebar	Rows 4	Length of rows LF 75	Total Longitudinal Rebar (LF) 300	Lap Factor 360	
Total	Rebar LF 455	20 Ft Increments 22.75	Total Needed 23	Cost of Rebar per 20 Ft \$7.50	
Total Cost of Rebar					\$172.50
Equipment					
Rivit Buster	Cost Per Day 60	Days Required 1	Supplier Home Depot	Cost \$60.00	
Stakes	Amount 15		Supplier Borrow from CM Department	Cost \$0.00	
Bon Tool (Hicky Bar)		Purchase Price \$ 40.00	Supplier Home Depot	Cost \$40.00	
Grinder	Amount 1		Supplier Borrow from CM Department	Cost \$0.00	
Concrete Trailer Pump	Rate per day \$ 250.00	Days Required 1	Supplier	Cost \$250.00	
Temporary Fencing	Cost per 100FT \$ 40.00	Units Required 2	Supplier Home Depot	Cost \$80	
Total Equipment Cost					\$430.00
Total Cost					\$1,502.50





















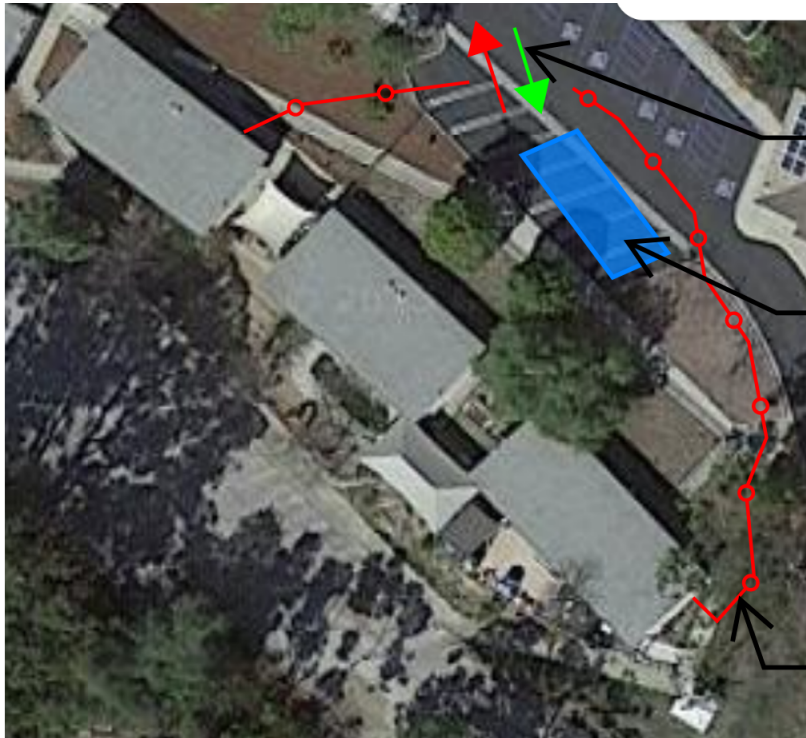








# Concrete Truck Placement and Additional Fence Area



Concrete Truck  
Ingress and Egress

Concrete Trailer  
Pump

Safety Fence



# Proof Of Funding

