

99% SEDIMENT YIELD REDUCTION IN TWO EASY STEPS

A CASE STUDY



ALDOT ENVIRONMENTAL

AN EVOLUTION OF THINKING, FOCUS, AND APPLICATION (PHILOSOPHY)



ENVIRONMENTAL VISION:

AN INTEGRATED ENVIRONMENTAL CULTURE...

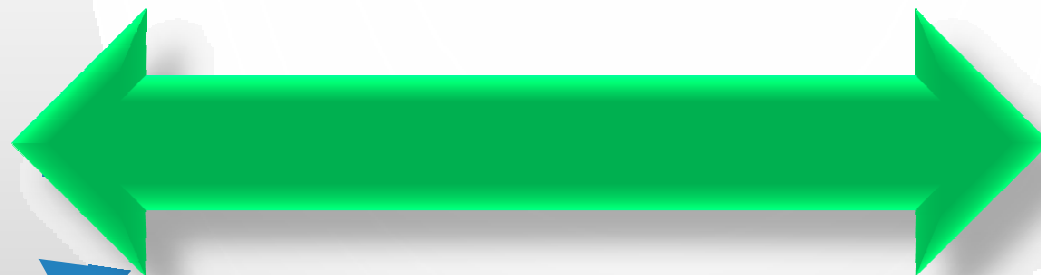


ALDOT'S MISSION:

TO PROVIDE A TRANSPORTATION SYSTEM...



MISSION



environmental
RESPONSIBILITIES



ALDOT ENVIRONMENTAL

**AN EVOLUTION OF
THINKING, FOCUS, AND
APPLICATION (TECHNICAL)**



EVOLUTION

EFFECTIVENESS → **COMMUNICATION**

IMPLEMENTATION → **WORK**

CAUSE → **WATER**

SOURCE → **EROSION**

SYMPTOM → **SEDIMENT**

$$A = \cancel{R K L S C P}$$

A = sediment yield

tons/acre/year



A CASE STUDY

Project Mission:

- to add two lanes to a section of I20/59 in Tuscaloosa

- Widen to inside
- Governor priority
- April letting



A CASE STUDY

MISSION:



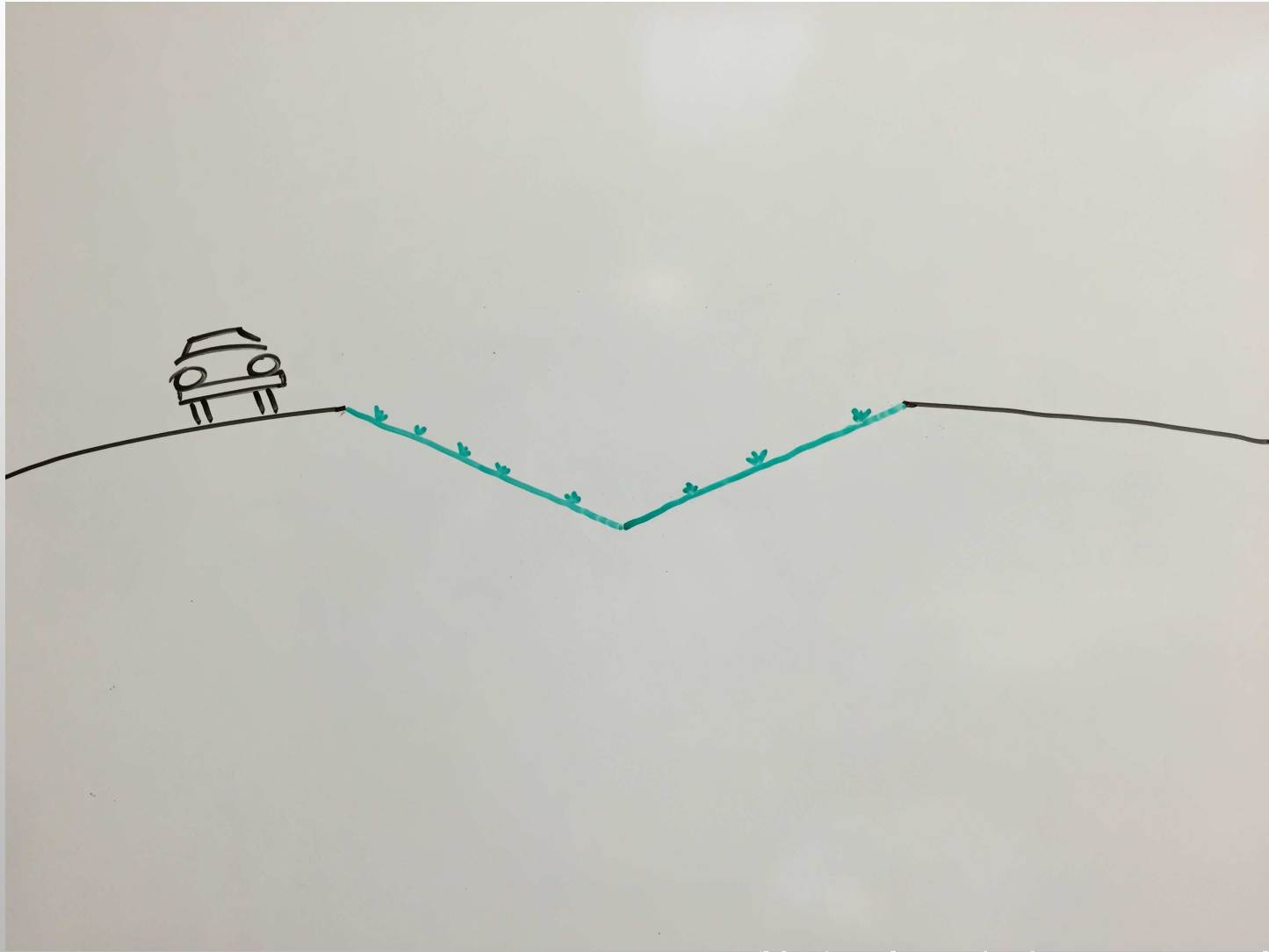
A CASE STUDY

MISSION:



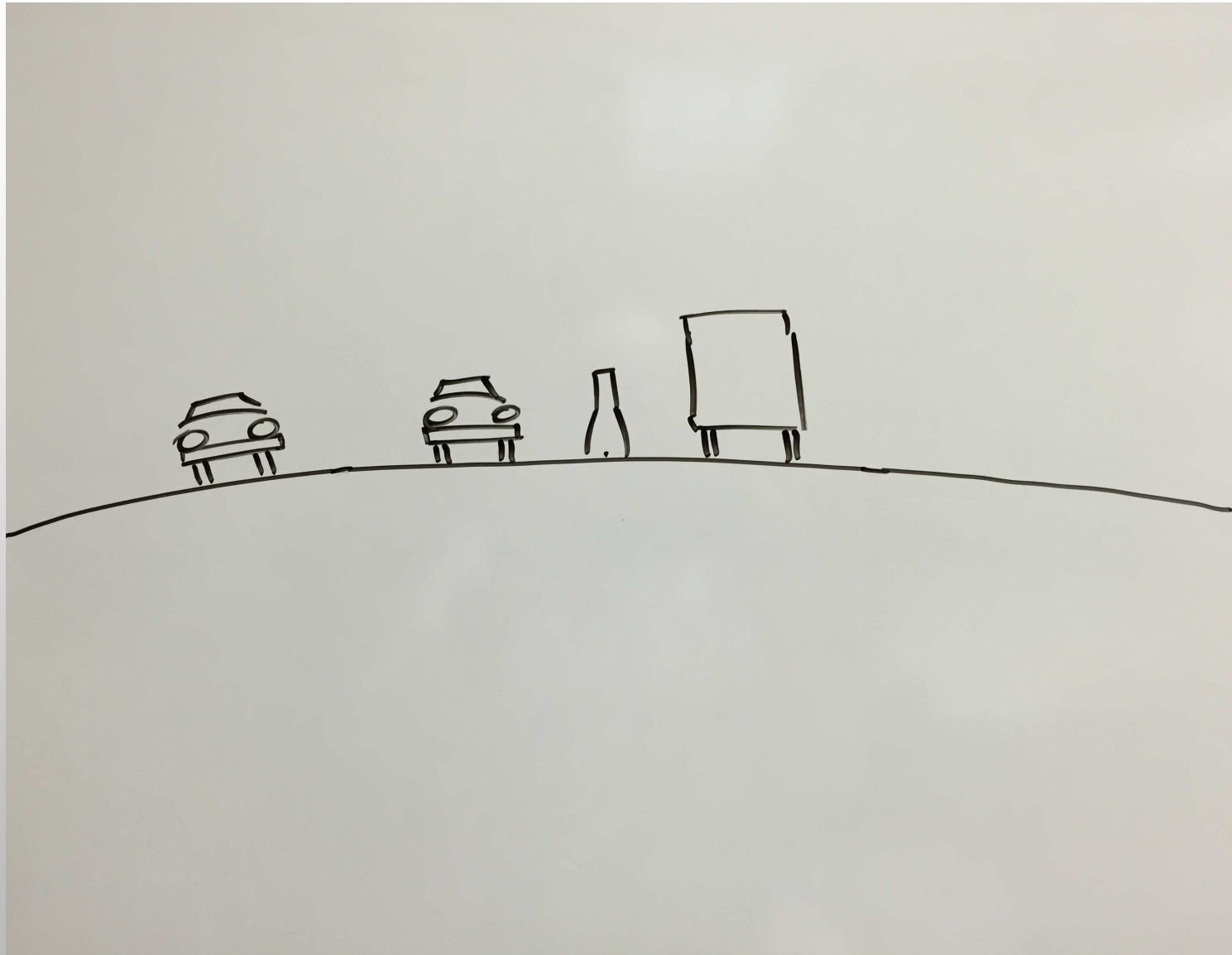
A CASE STUDY

MISSION:



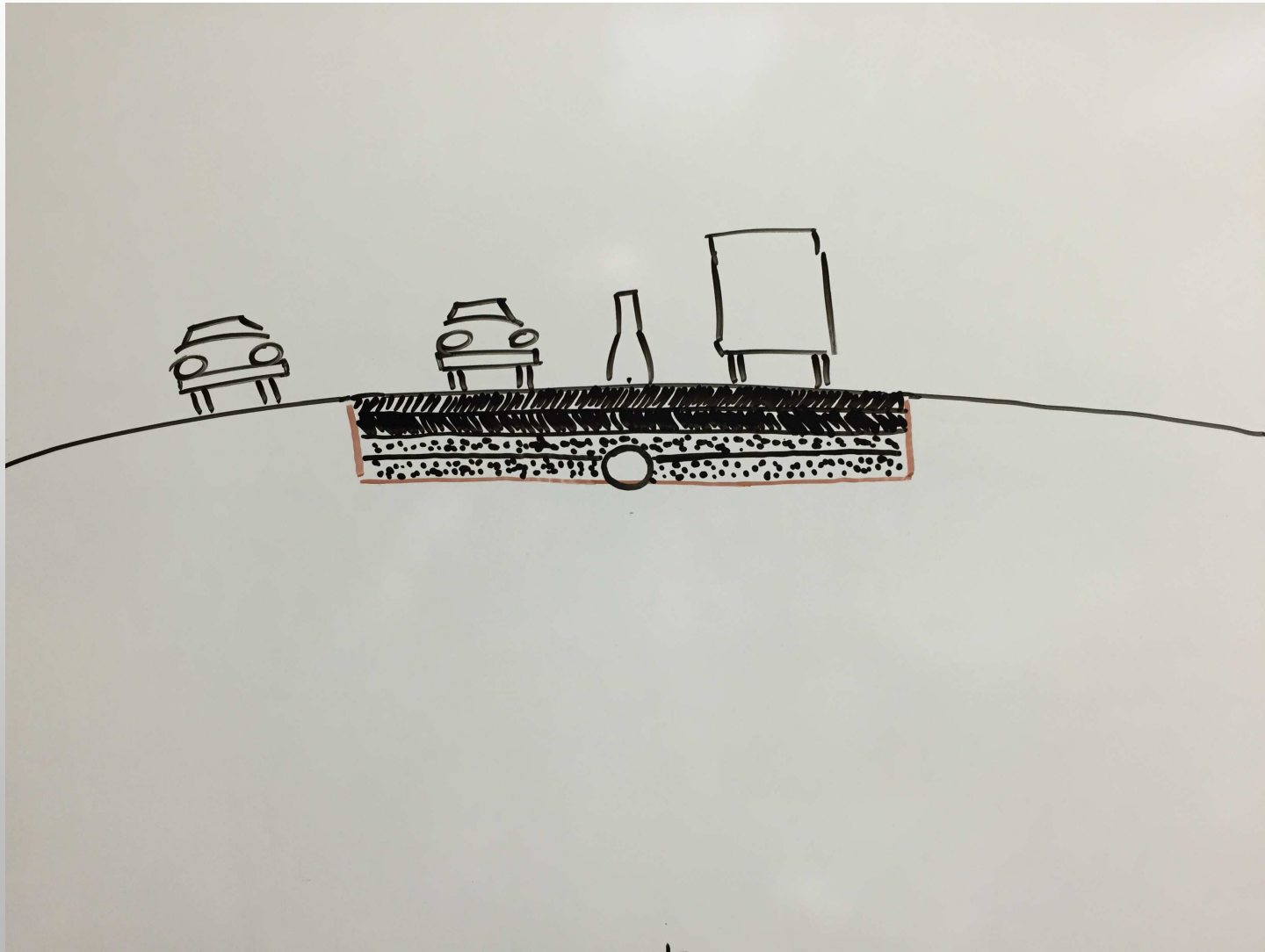
A CASE STUDY

MISSION:



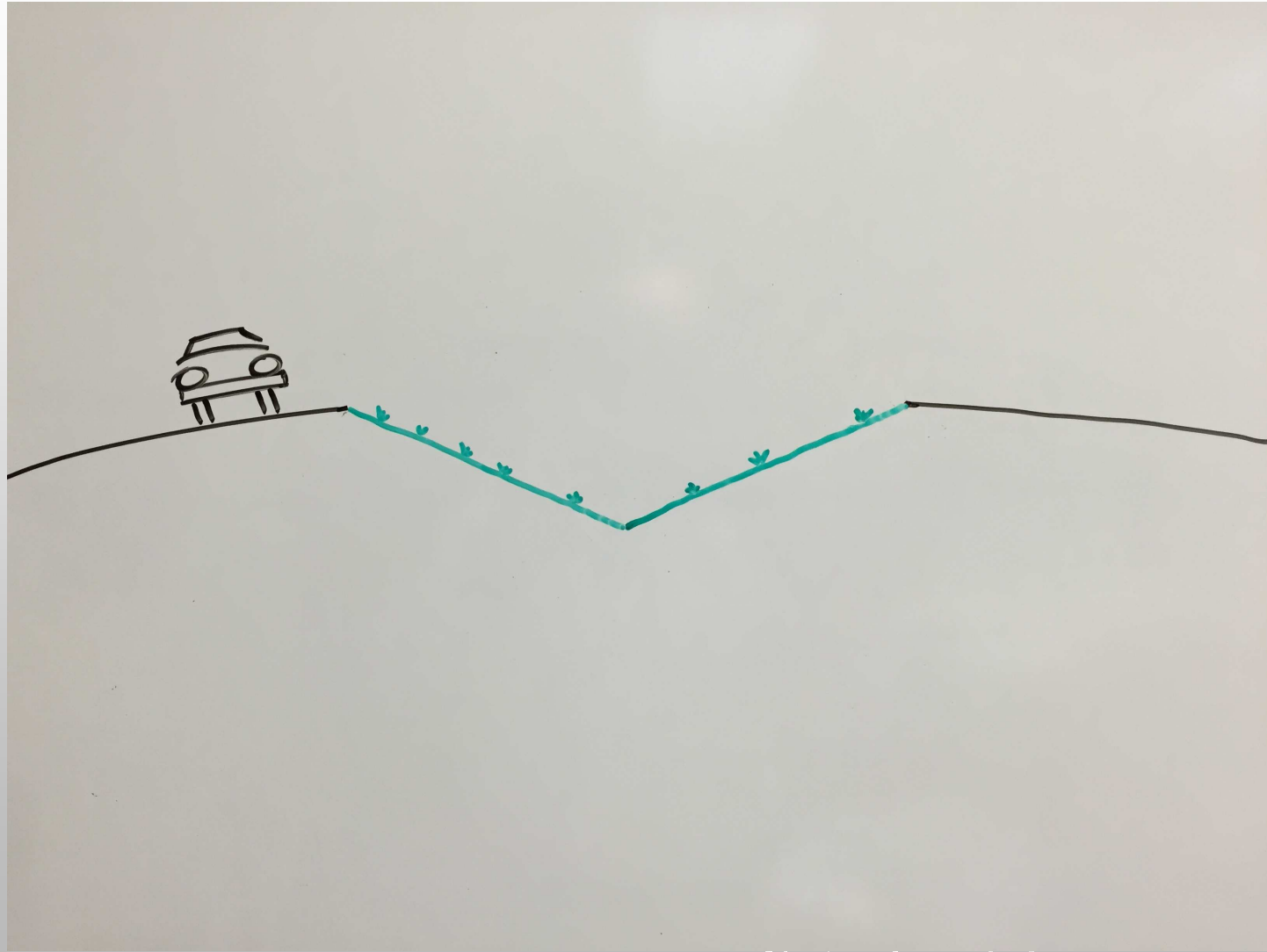
A CASE STUDY

MISSION:



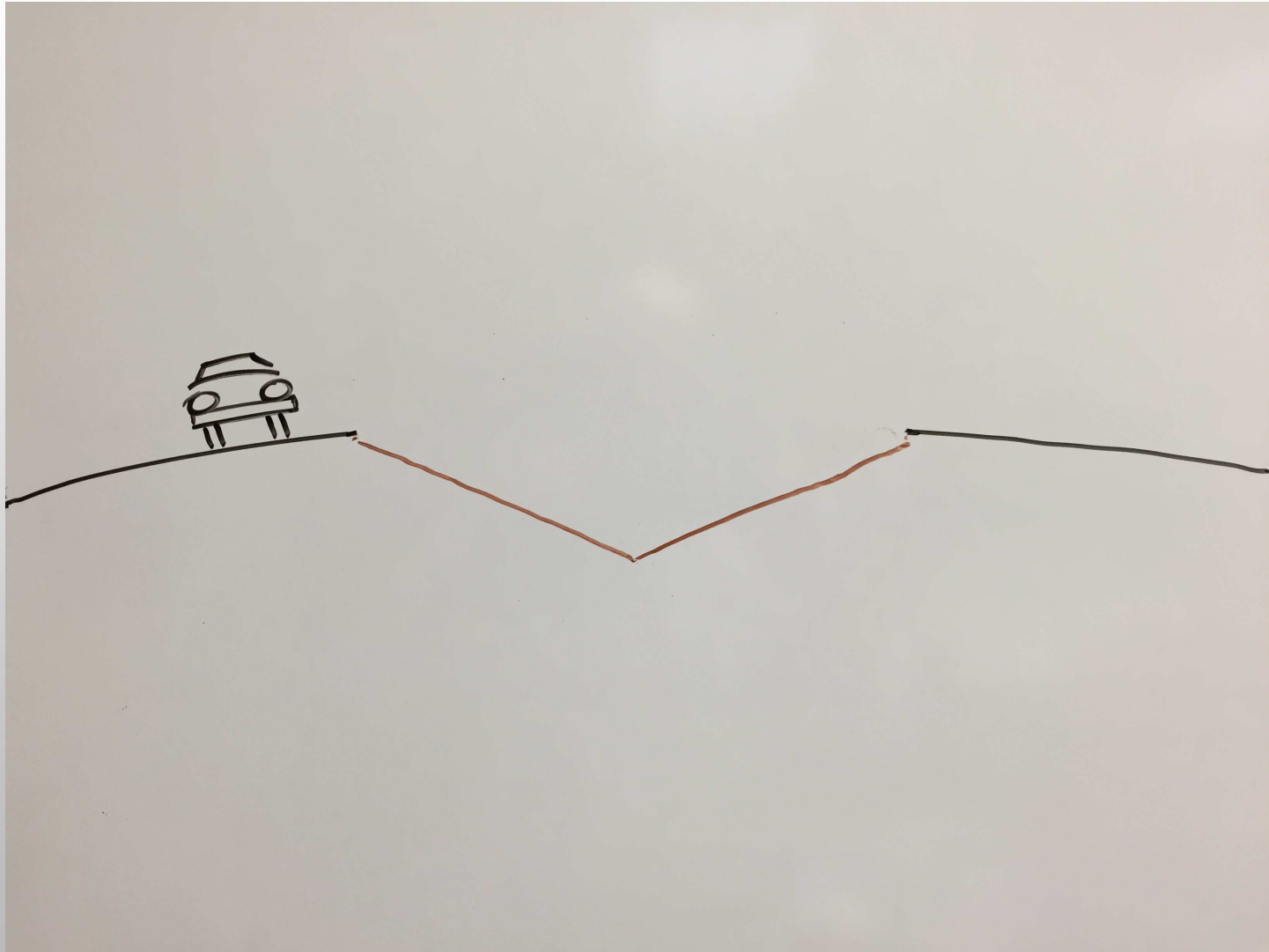
A CASE STUDY

ACTIVITIES:



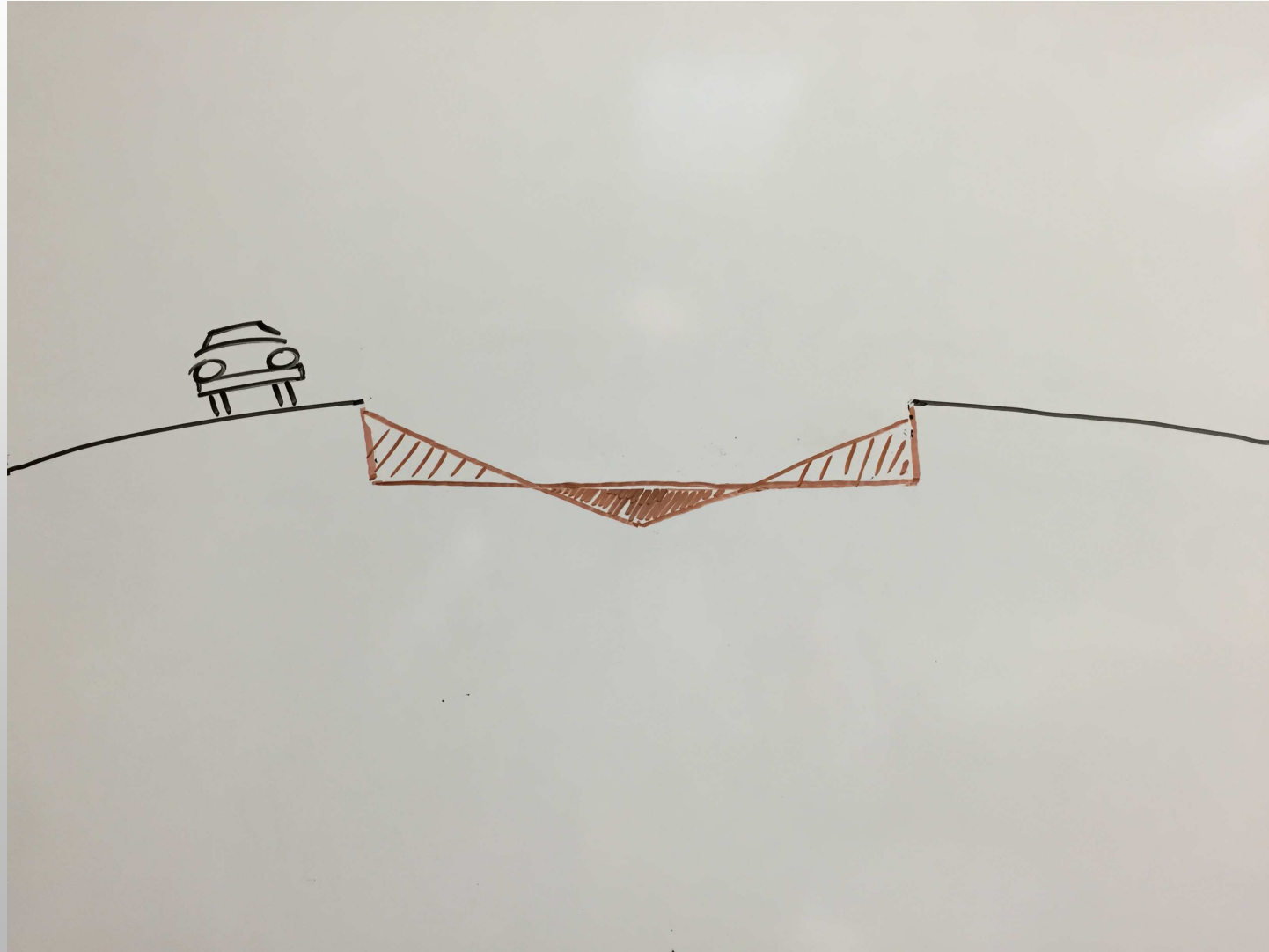
A CASE STUDY

ACTIVITIES:



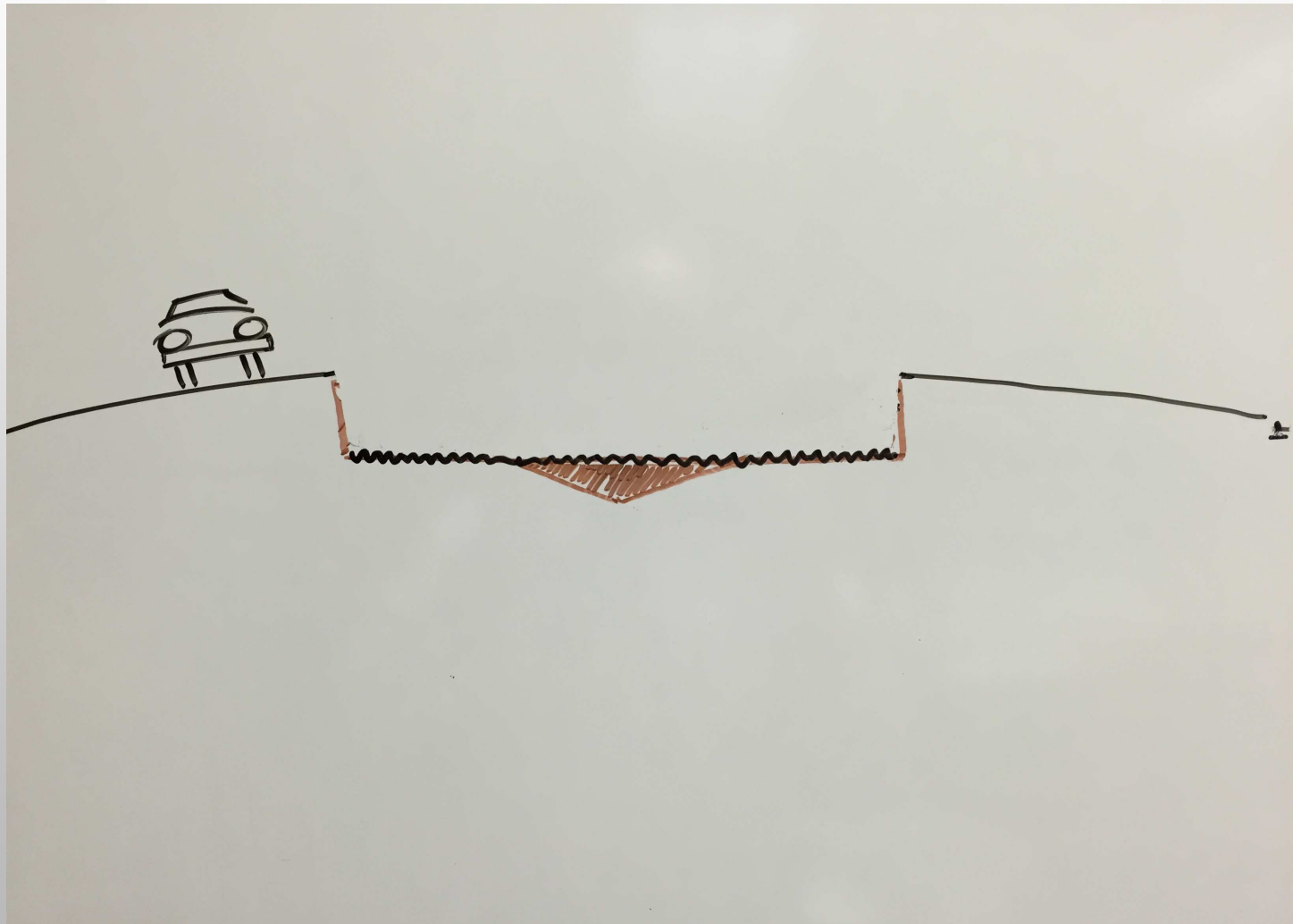
A CASE STUDY

ACTIVITIES:



A CASE STUDY

ACTIVITIES:



A CASE STUDY

ACTIVITIES:



A CASE STUDY

ACTIVITIES:



A CASE STUDY

ACTIVITIES:



POTENTIAL IMPACTS:

- IMPACTS TO HABITAT
- IMPACTS TO WATER QUALITY
- IMPACTS TO PRIVATE PROPERTY
- REGULATORY ACTIONS
- CIVIL ACTIONS
- EMBARRASSMENT
- LOSS OF TRUST AND GRACE



ENVIRONMENTAL RESPONSIBILITIES:

- REGULATORY
 - GENERAL PERMIT
 - TMDL –
 - 32% TURBIDITY REDUCTION
 - 60.8 NTU LIMITATION
- SOCIAL EXPECTATIONS
 - HURRICANE CREEKKEEPER
 - FRIENDS OF HURRICANE CREEK
 - BLACK WARRIOR RIVERKEEPER
 - CLEAN WATER PARTNERSHIP
- ALDOT COMMITMENT TO PROTECT THE ENVIRONMENT



MISSION → ACTIVITIES → *potential* IMPACTS → *environmental* RESPONSIBILITIES

HOW?

Project Mission:

- to add two lanes to a section of I20/59 in Tuscaloosa

- Widen to inside
- General priority
- April setting



THE FIVE PILLARS OF CONSTRUCTION STORMWATER MANAGEMENT

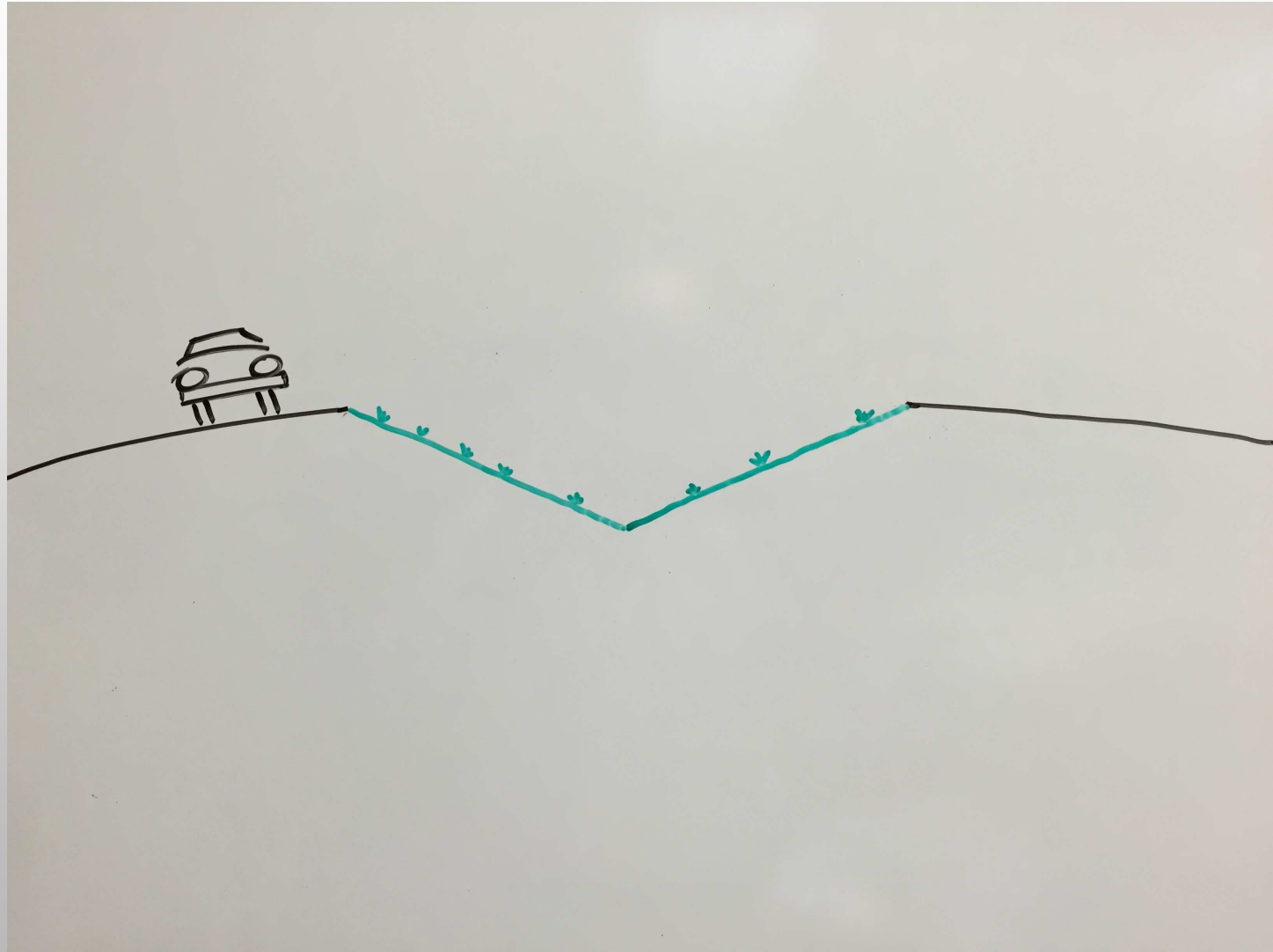
- **COMMUNICATION** - THE BEST MANAGEMENT PRACTICE.
- **WORK** - CONTRACTORS CAN DO JUST ABOUT ANYTHING.
- **WATER** - CLEAN WATER IN, CLEAN WATER OUT.
- **EROSION** - GREEN IS GOOD.
- **SEDIMENT** - SEDIMENT CONTROL ALONE IS INEFFECTIVE.

$$A = R \text{ ~~KLS~~ CP$$

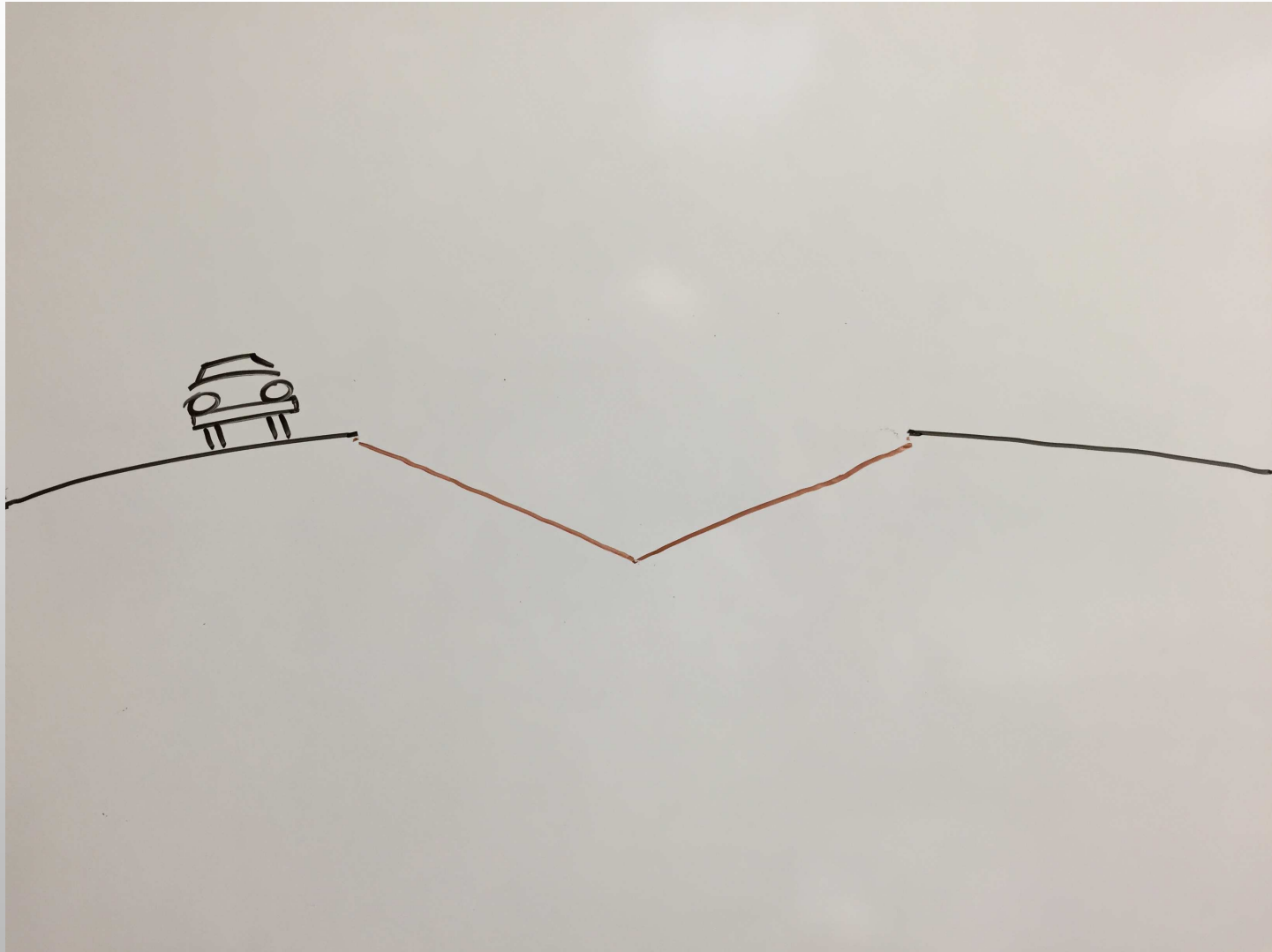
A = sediment yield in **tons/acre/year**



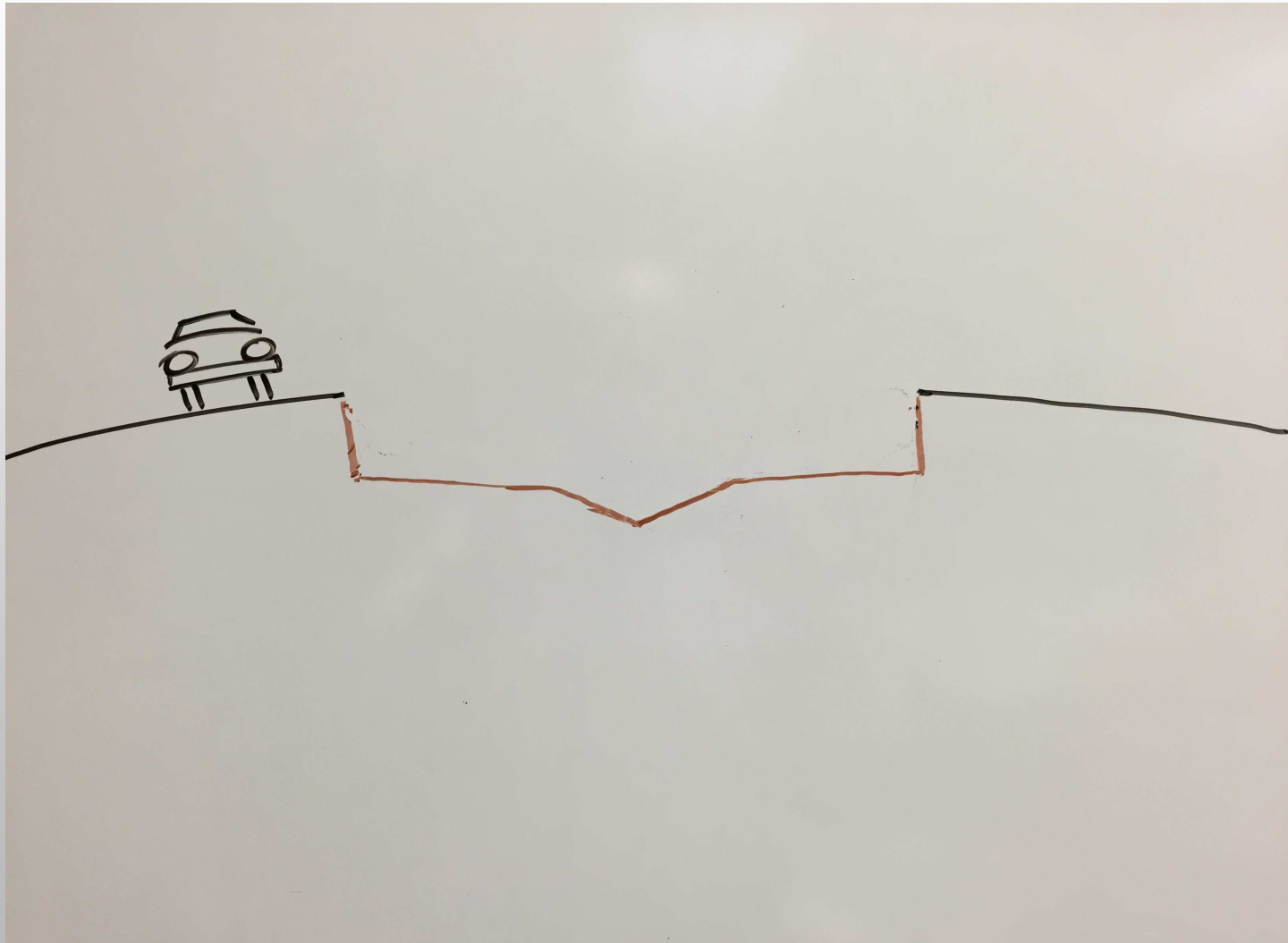
A CASE STUDY



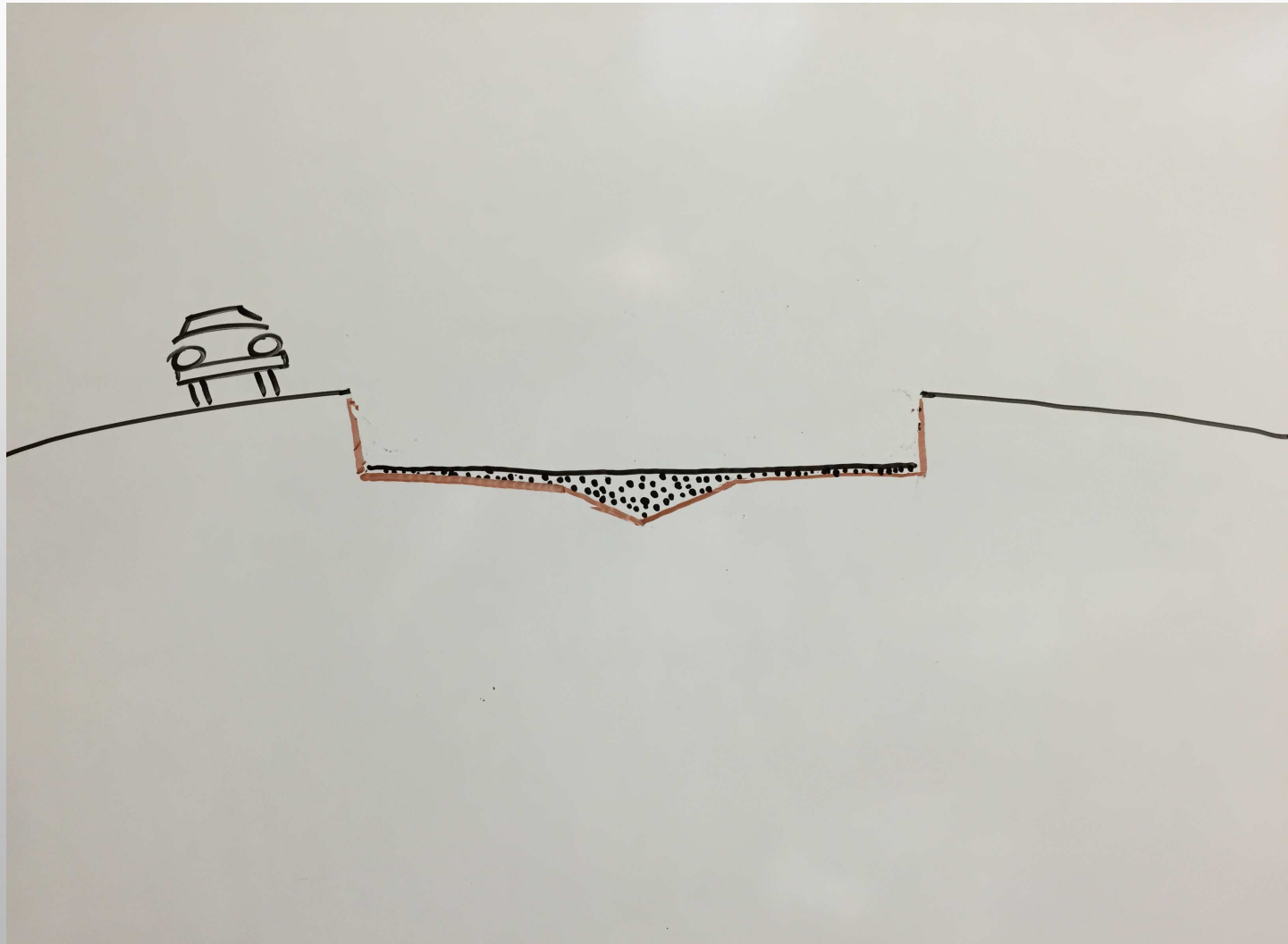
A CASE STUDY



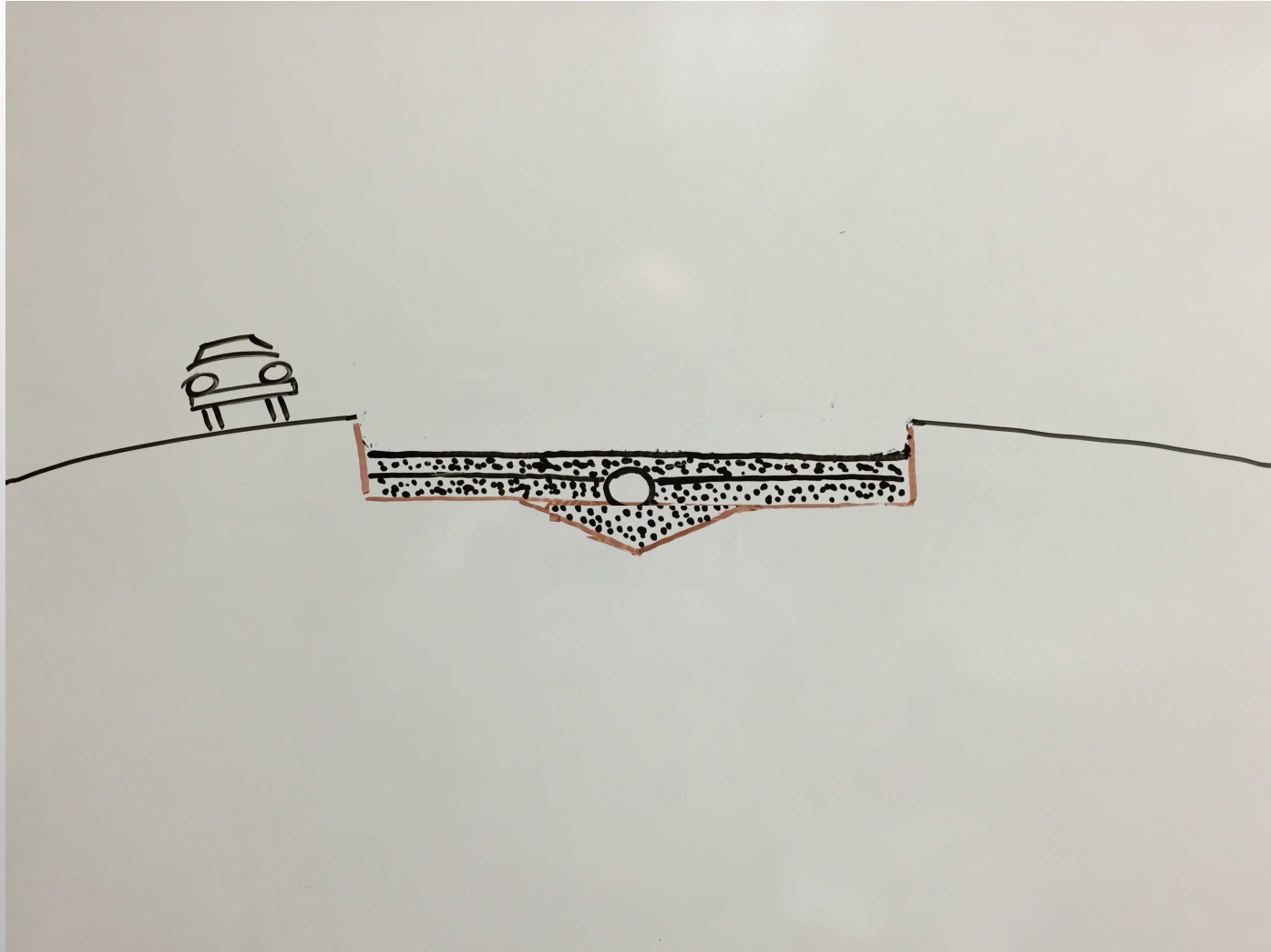
A CASE STUDY



A CASE STUDY



A CASE STUDY









TRADITIONAL

ALTERNATE







“WE CAN’T DICTATE THE CONTRACTOR’S MEANS AND METHODS... CAN WE?”

- WHY NOT?
- THE CONTRACTOR WORKS FOR US, RIGHT?
- WE HAVE DIFFERENT INTERESTS.
- WE HAVE EXPERTISE WHERE THEY DON’T.



“DIDN'T THAT SLOW PRODUCTION?”

- CONTRACTOR:

- “WE MAY HAVE BEEN SHUT DOWN FOR A DAY AFTER A RAIN, NOT A WEEK.”
- “UNLESS THE RAIN WAS FALLING, WE WERE WORKING.”



“DIDN'T THAT SLOW PRODUCTION?”

- **CONTRACTOR:**

- **“WE WOULD HAVE WAITED UNTIL APRIL TO START RATHER THAN LAST NOVEMBER... AND WE WOULD NOT HAVE BEEN SHIFTING TRAFFIC TODAY.”**
- **“PRODUCTION WAS INCREASED BY AT LEAST 35%.”**

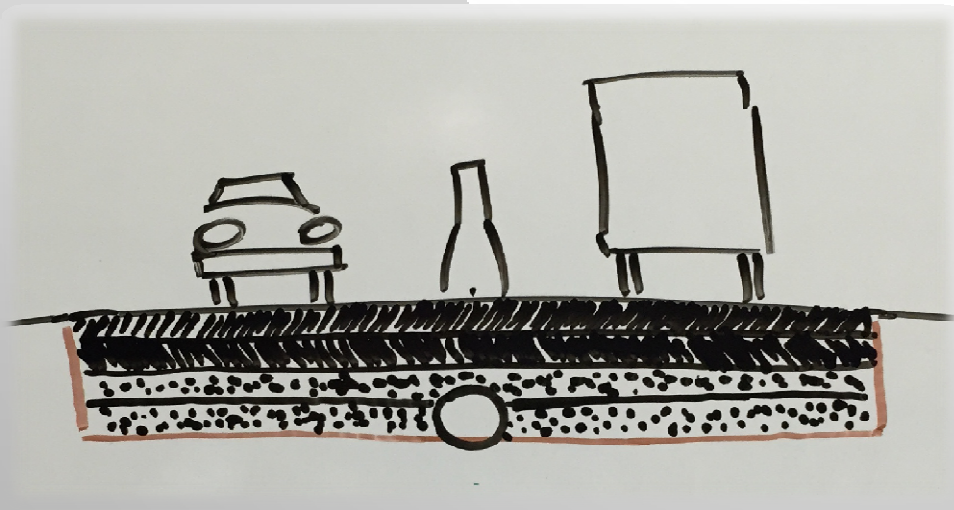


“WHAT ABOUT QUALITY?”

“This is actually a better structural buildup.”

- Lyndi Blackburn, P.E.

ALDOT Asst. State Materials & Tests Engineer



**“IF YOU DON’T MIND ME ASKIN’,
HOW MUCH DID SHE SET YOU BACK?”**

- **SIGNIFICANT CONTRACT COST INCREASES (>\$400,000)**
NOT CONSIDERING SAVINGS DUE TO IMPROVEMENTS IN -
 - SAFETY
 - REDUCTION IN TRAFFIC DELAYS
 - PRODUCTION
 - HEADACHE



DO YOU REALIZE WHAT WE JUST DID?

- ENVIRONMENTAL PROTECTION, WITH BENEFITS IN...
 - QUALITY
 - SAFETY
 - TRAFFIC
 - PRODUCTION
 - COST



“I HAVE NEVER SEEN A BETTER RUN ROAD PROJECT BY ALDOT.”

“THAT DOESN'T MEAN I BELIEVE THEY CAN BUILD THE EASTERN (BOONDOGGLE EXPRESSWAY) BYPASS WITH THE SAME CONTROL. WE'LL SEE.”

- John Wathen
Hurricane Creekeeper Blog
June, 2015





THE END...