

Companion to "The Role of IGrds™ in the Design of Texas Roadways" -- Digitized 35mm Slides

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Digitized December 2023

TxDOT Research Project 0-1241

"Development of RDS/IGRDS Self-Instructional Course Materials"



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Four Stages of Project Development

1. Preliminary Engineering and Route Studies

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Four Stages of Project Development

1. Preliminary Engineering and Route Studies

2. Location, Preliminary Design and Determination of R-O-W and Schematic Requirements

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Four Stages of Project Development

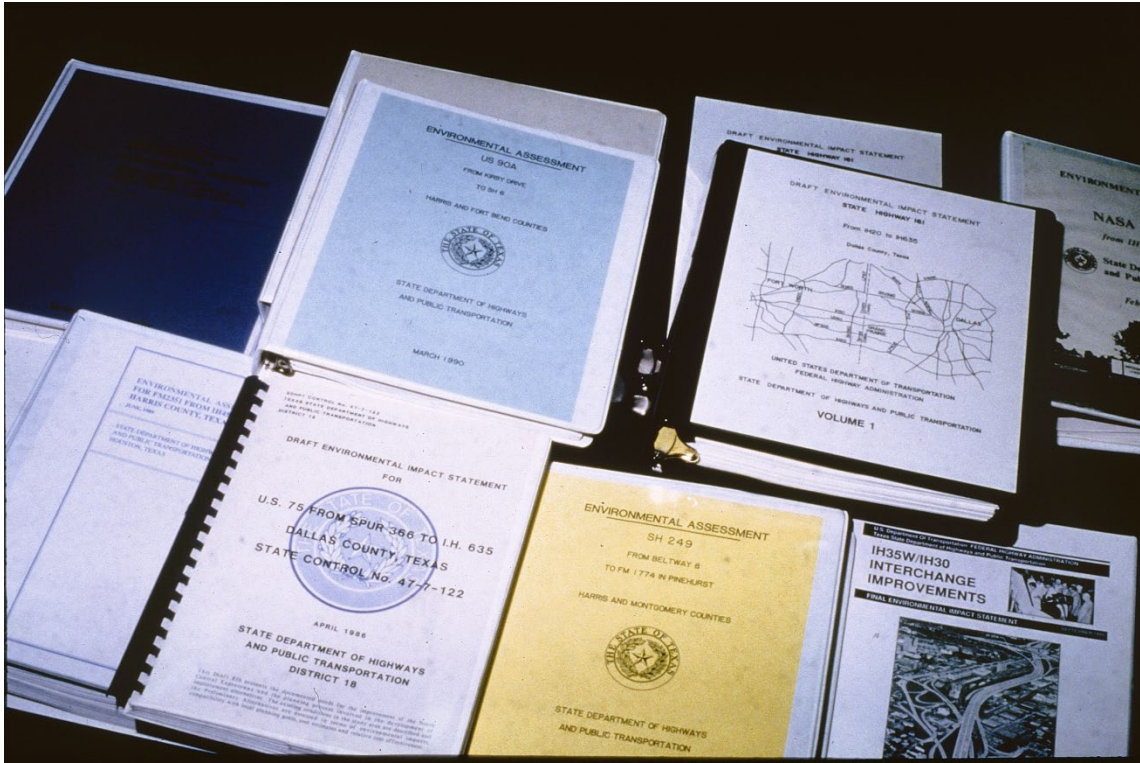
1. Preliminary Engineering and Route Studies
2. Location, Preliminary Design and Determination of R-O-W and Schematic Requirements
3. Preparation of R-O-W Data

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Four Stages of Project Development

1. Preliminary Engineering and Route Studies
2. Location, Preliminary Design and Determination of R-O-W and Schematic Requirements
3. Preparation of R-O-W Data
4. P S & E

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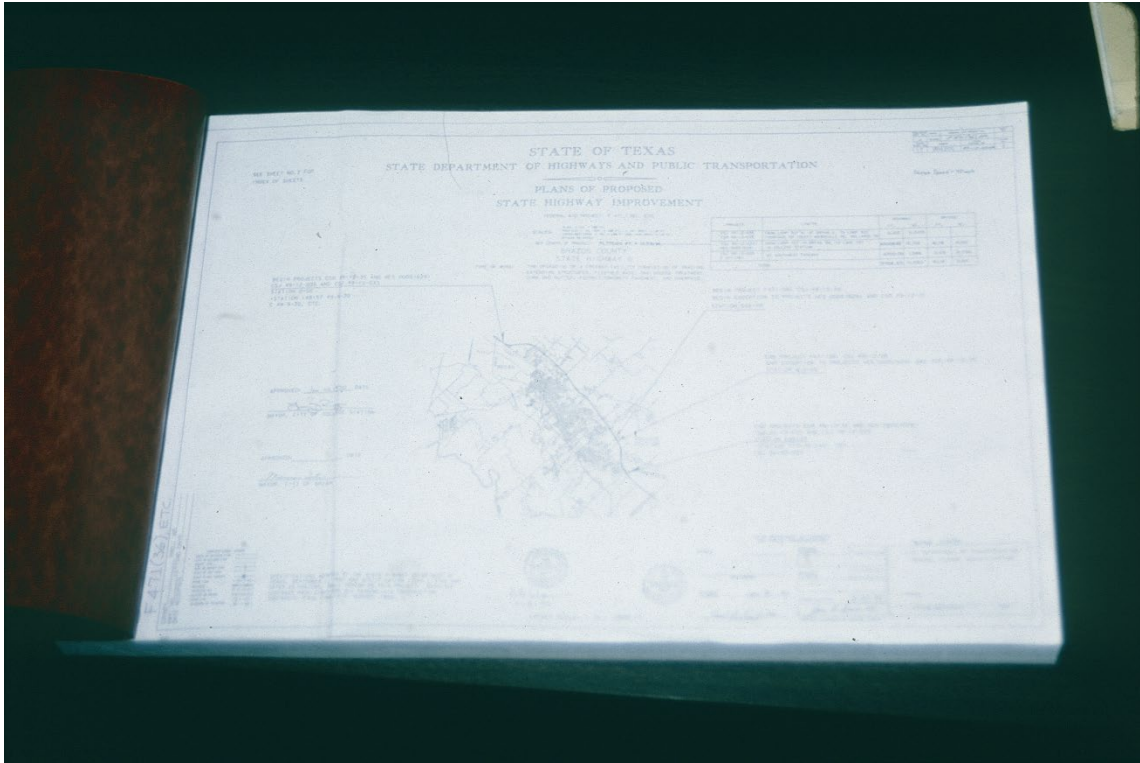
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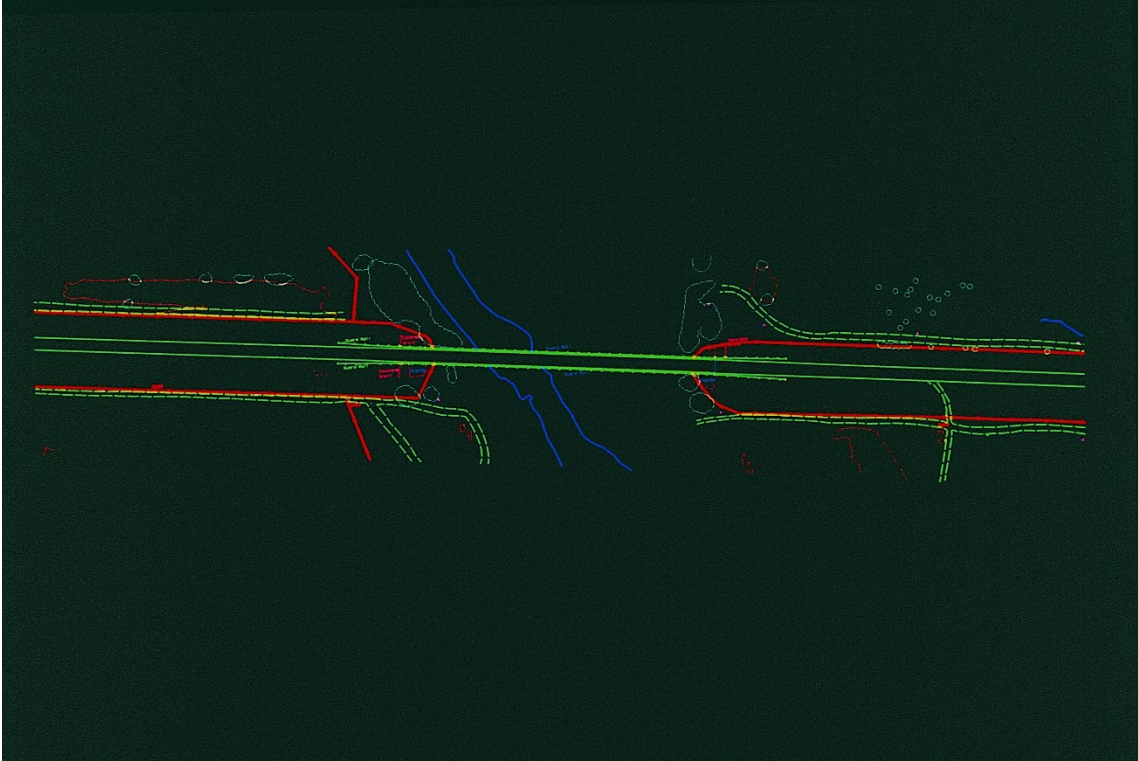
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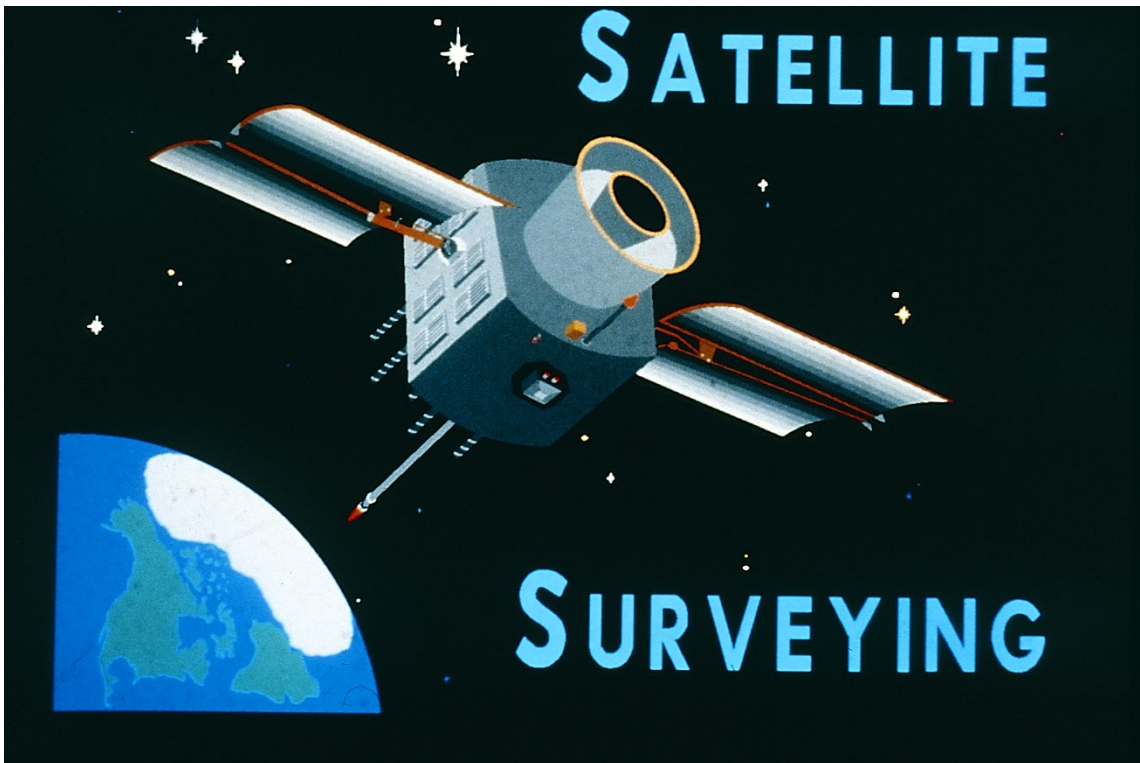
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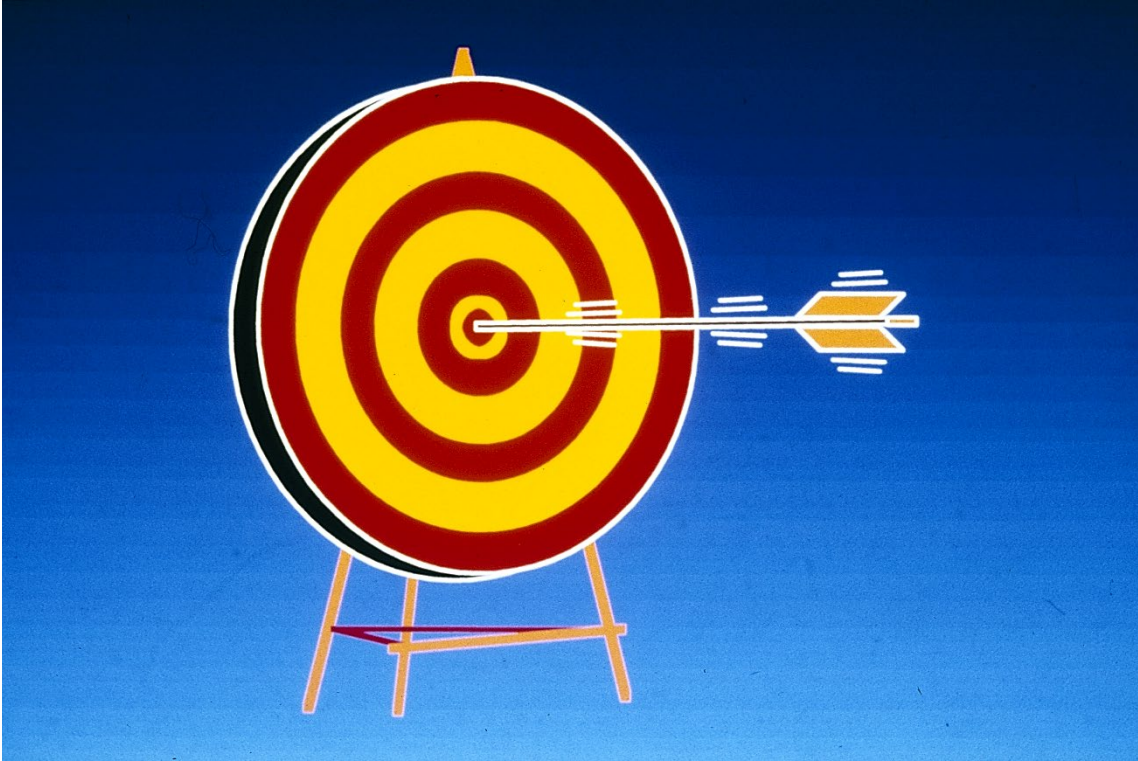
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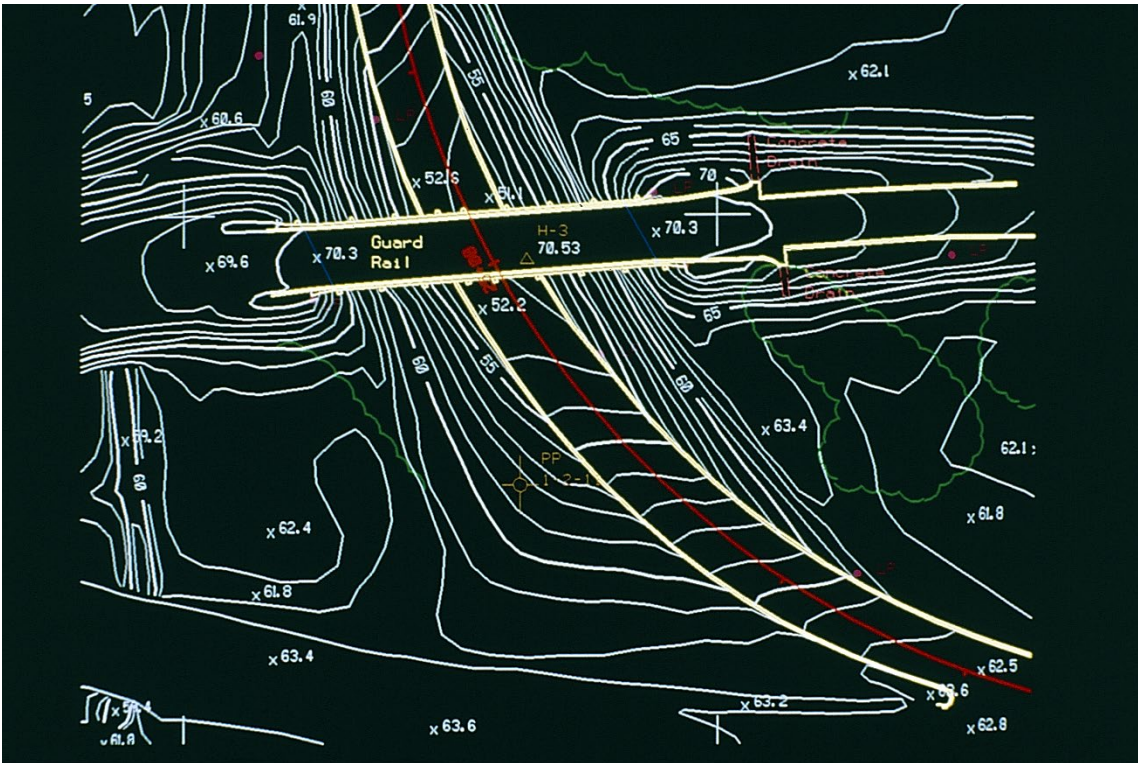
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Roadway

Design

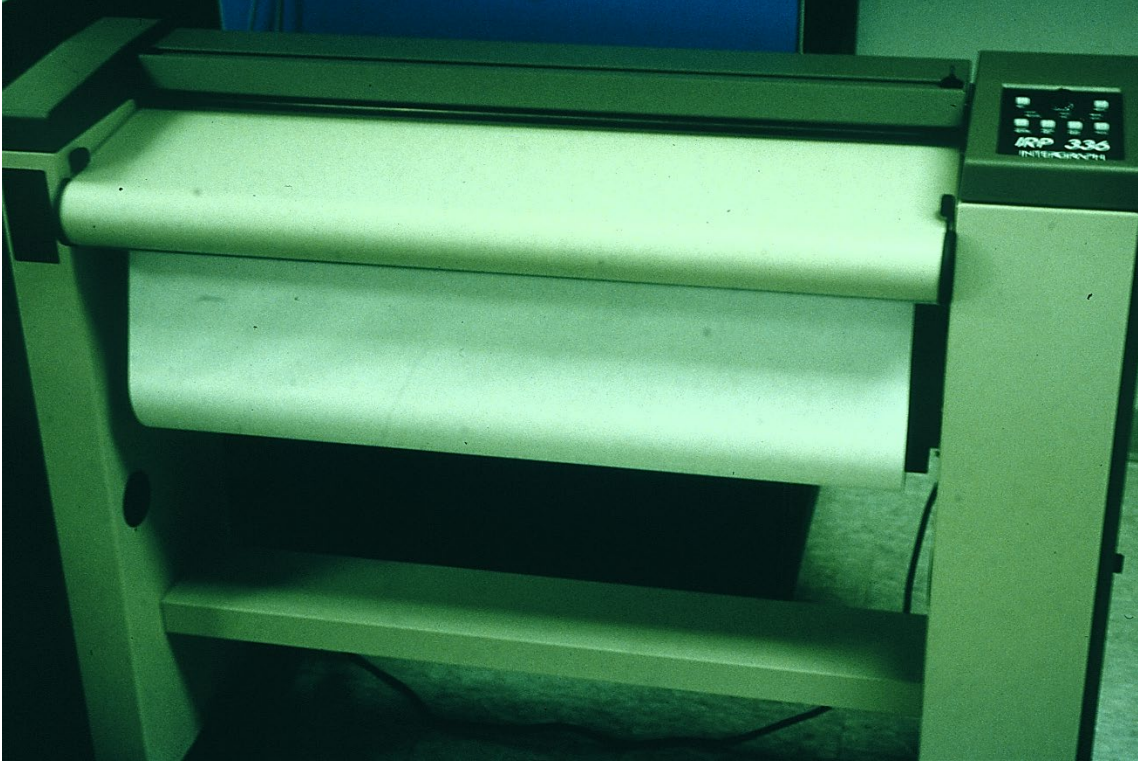
System

(RDS™)

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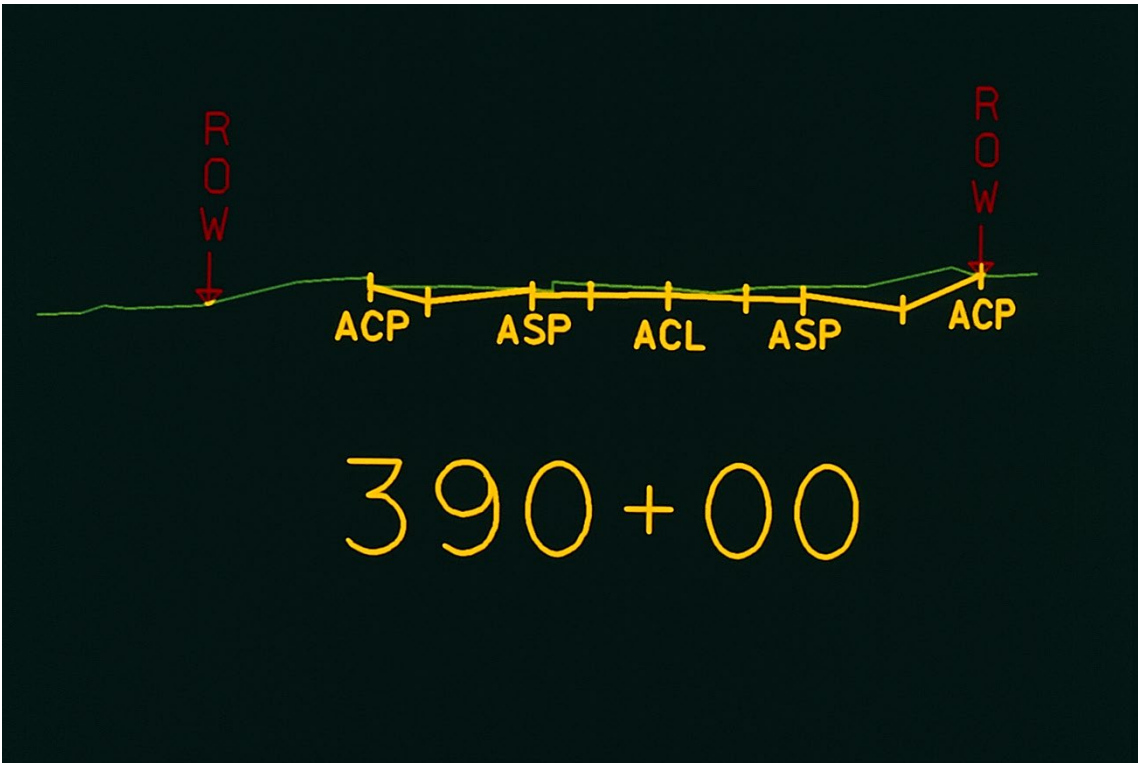
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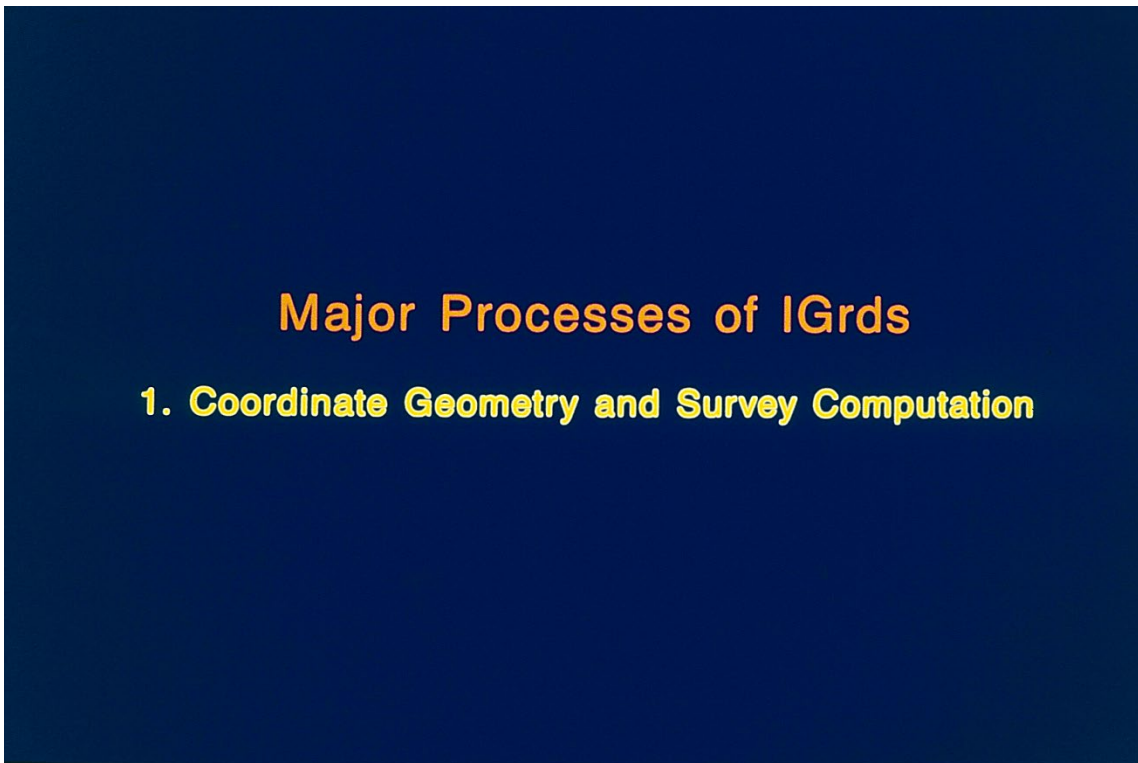
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Major Processes of IGrds

1. Coordinate Geometry and Survey Computation
2. Horizontal and Vertical Alignment Design and Vertical Geometry

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Major Processes of IGrds

1. Coordinate Geometry and Survey Computation
2. Horizontal and Vertical Alignment Design and Vertical Geometry
3. Reduction of Terrain Data from Field or Aerial Surveys

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Major Processes of IGrds

1. Coordinate Geometry and Survey Computation
2. Horizontal and Vertical Alignment Design and Vertical Geometry
3. Reduction of Terrain Data from Field or Aerial Surveys
4. Typical Design Cross-Section Configuration and Computation

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Major Processes of IGrds

1. Coordinate Geometry and Survey Computation
2. Horizontal and Vertical Alignment Design and Vertical Geometry
3. Reduction of Terrain Data from Field or Aerial Surveys
4. Typical Design Cross-Section Configuration and Computation
5. Design Cross-Section Modification

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Major Processes of IGrds

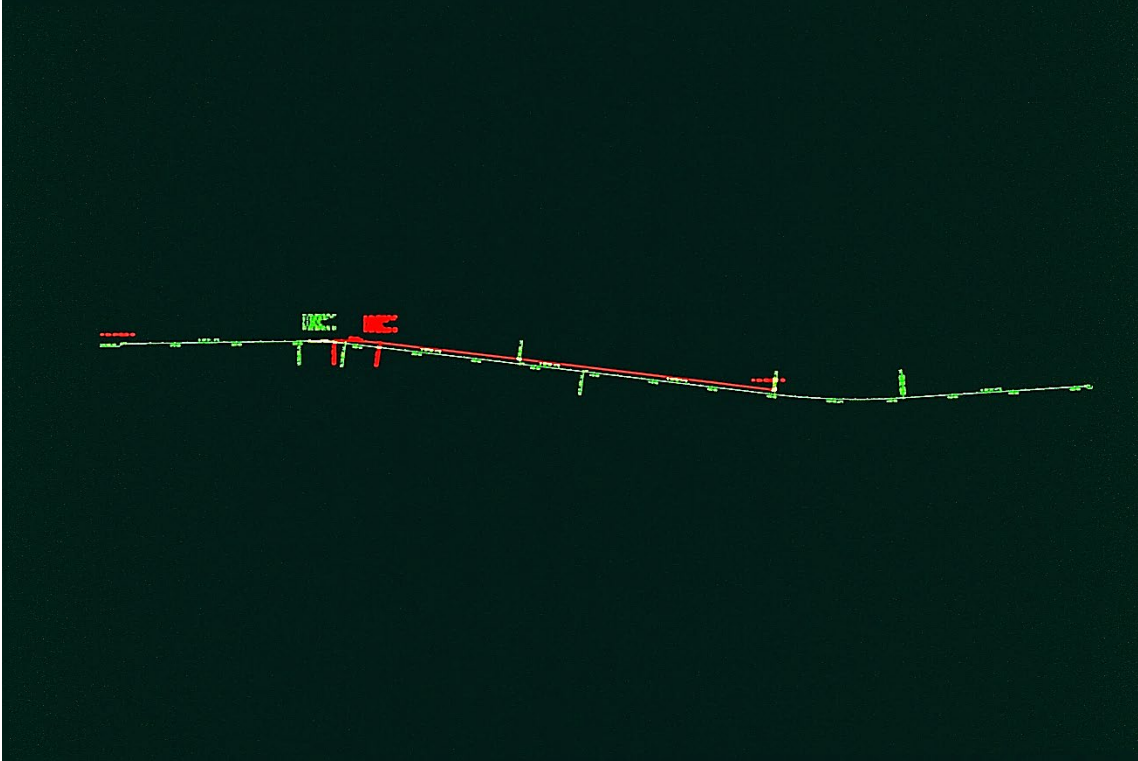
1. Coordinate Geometry and Survey Computation
2. Horizontal and Vertical Alignment Design and Vertical Geometry
3. Reduction of Terrain Data from Field or Aerial Surveys
4. Typical Design Cross-Section Configuration and Computation
5. Design Cross-Section Modification
6. Earthwork Quantities Processing

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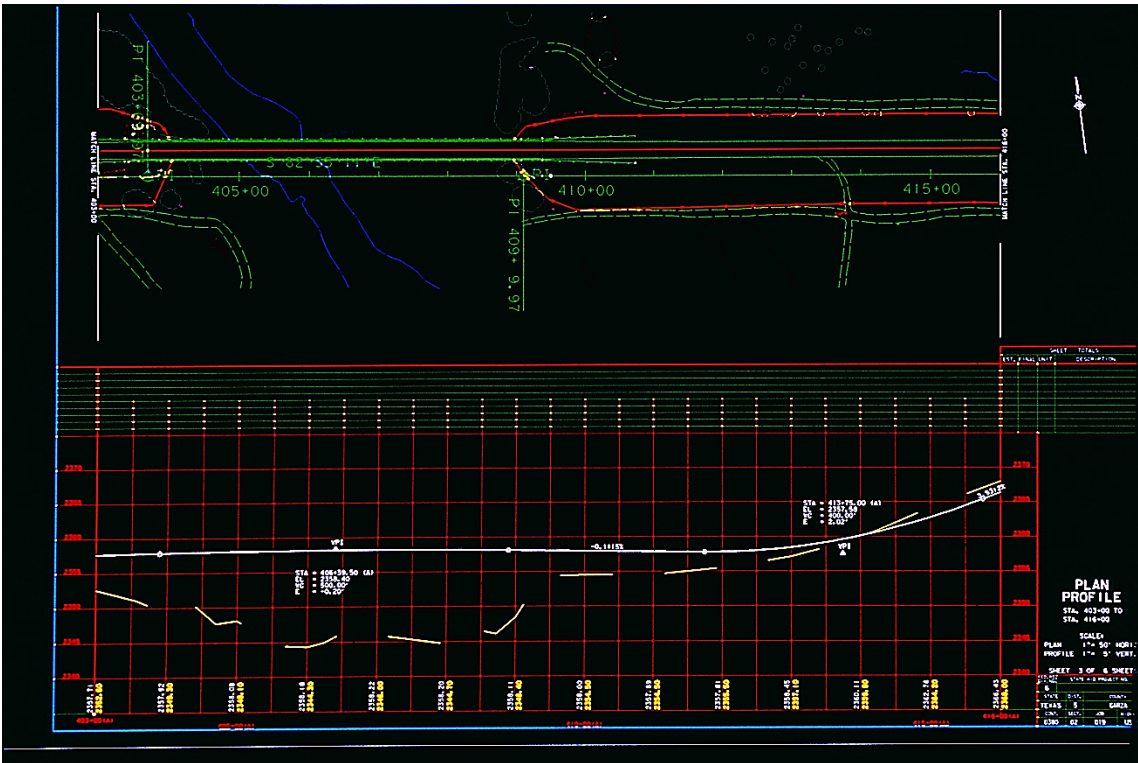
Major Processes of IGrds

1. Coordinate Geometry and Survey Computation
2. Horizontal and Vertical Alignment Design and Vertical Geometry
3. Reduction of Terrain Data from Field or Aerial Surveys
4. Typical Design Cross-Section Configuration and Computation
5. Design Cross-Section Modification
6. Earthwork Quantities Processing
7. Plan Preparation and Drafting

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IGrds Horizontal Alignment Commands

1. Display Horizontal Alignment Components

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IGrds Horizontal Alignment Commands

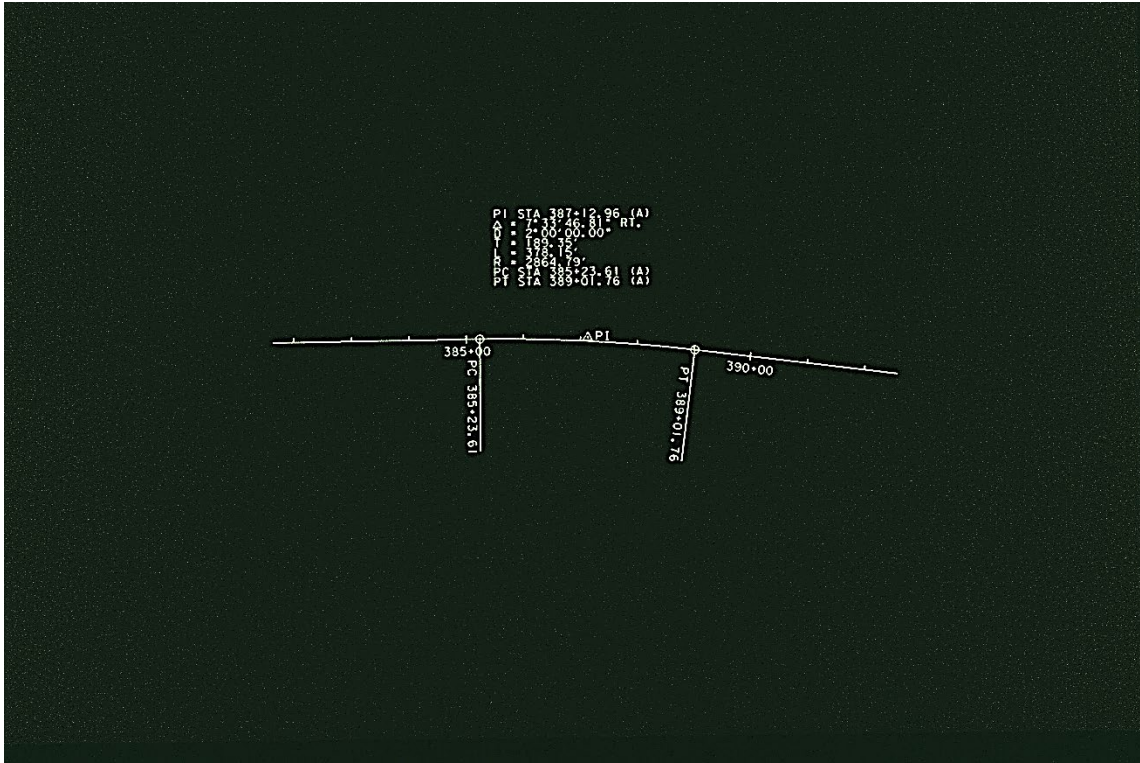
- 1. Display Horizontal Alignment Components**
- 2. Define/Modify Horizontal Alignment**

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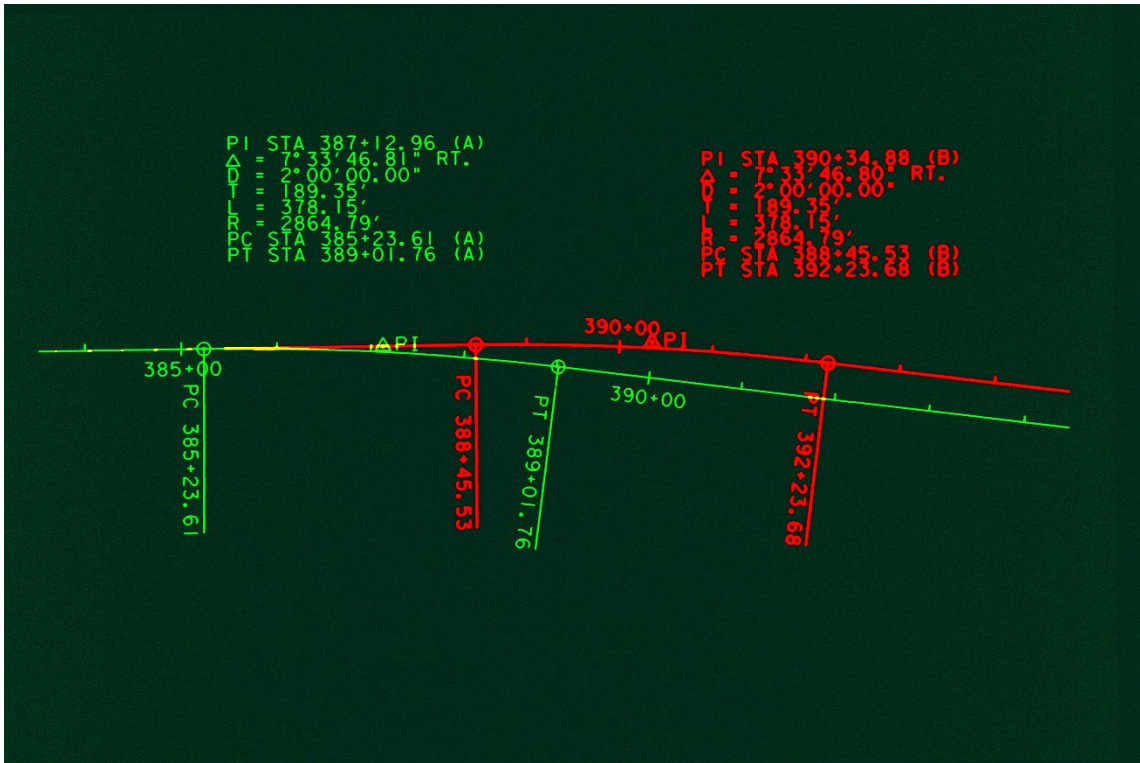
IGrds Horizontal Alignment Commands

- 1. Display Horizontal Alignment Components**
- 2. Define/Modify Horizontal Alignment**
- 3. Compute/Identify Elements**

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IGrds Vertical Alignment Commands

1. Establish VPI's

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IGrds Vertical Alignment Commands

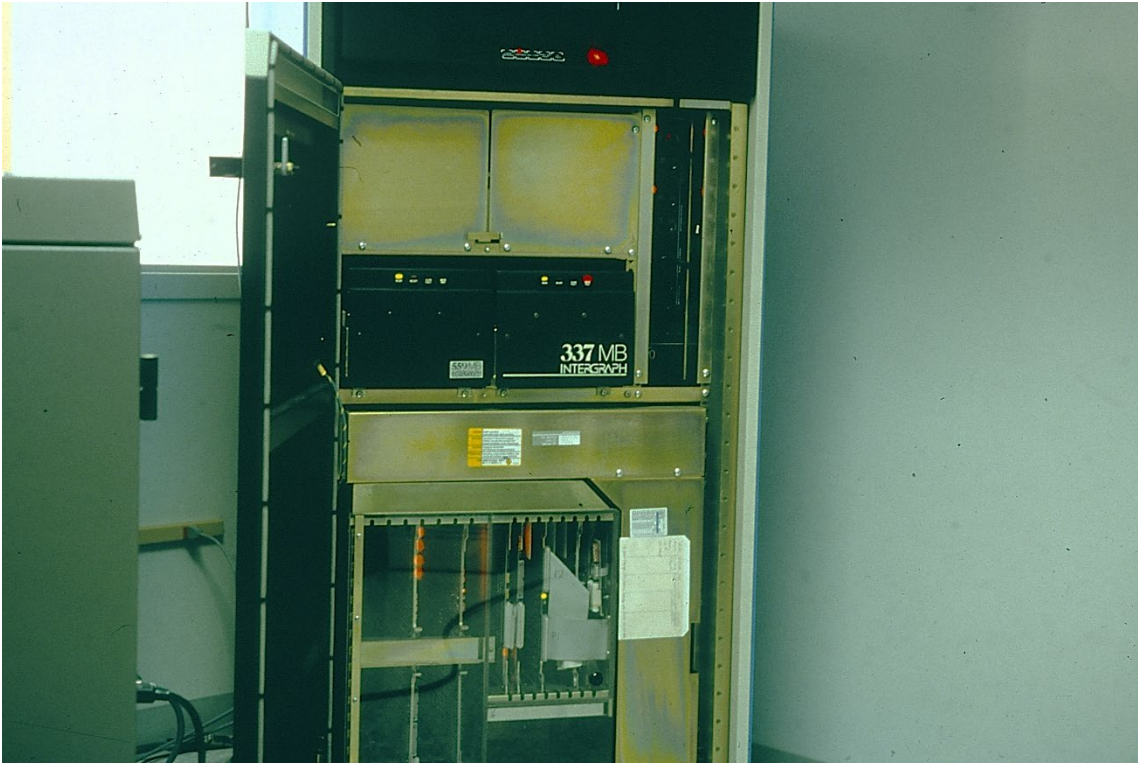
- 1. Establish VPI's**
- 2. Perform Vertical Alignment Computations**

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IGrds Vertical Alignment Commands

- 1. Establish VPI's**
- 2. Perform Vertical Alignment Computations**
- 3. Display Vertical Alignment**

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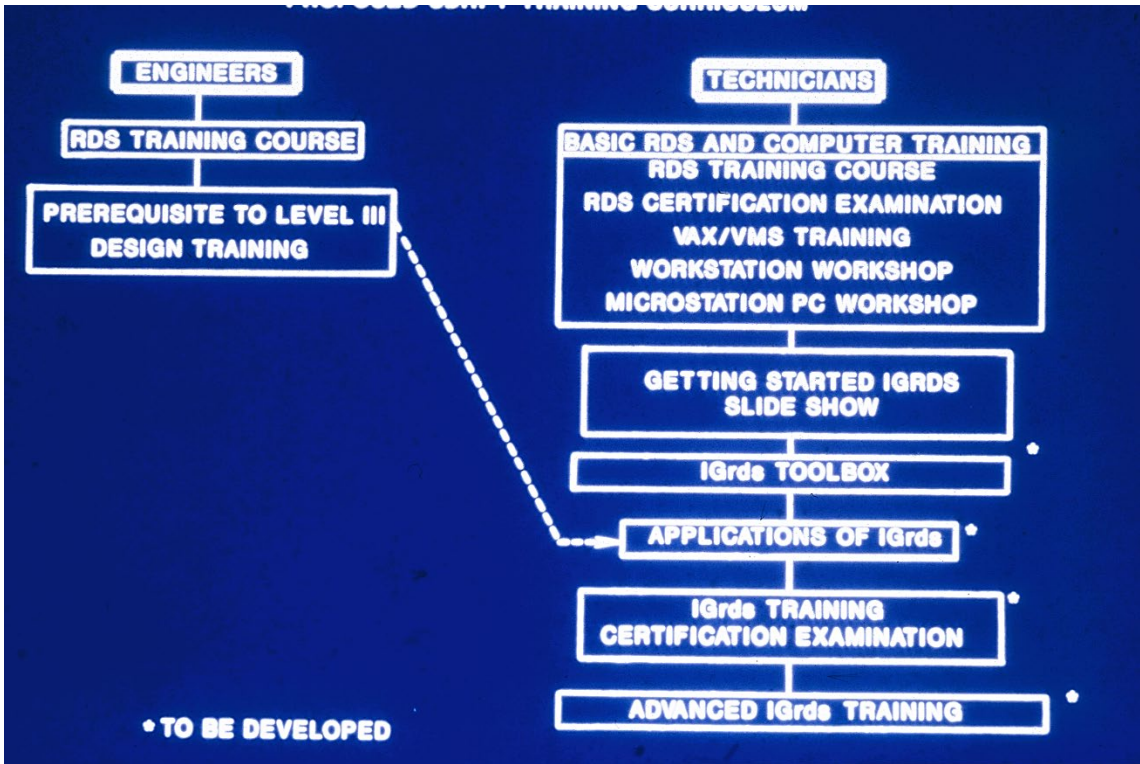
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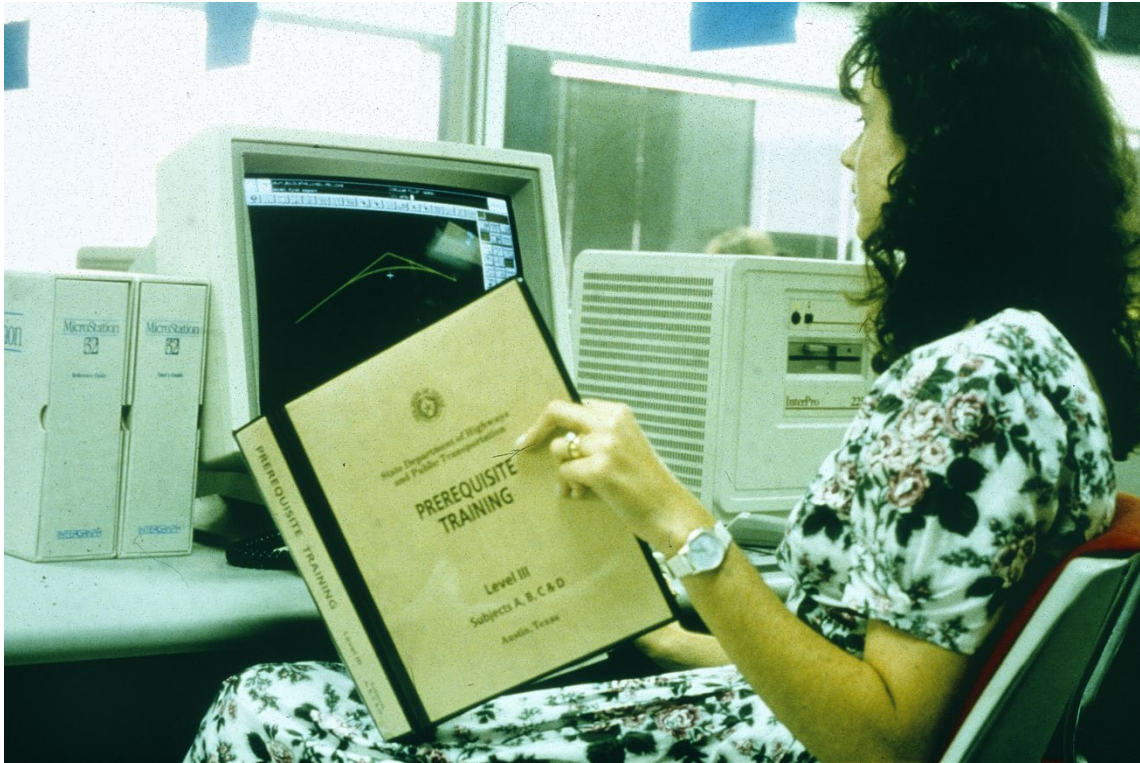
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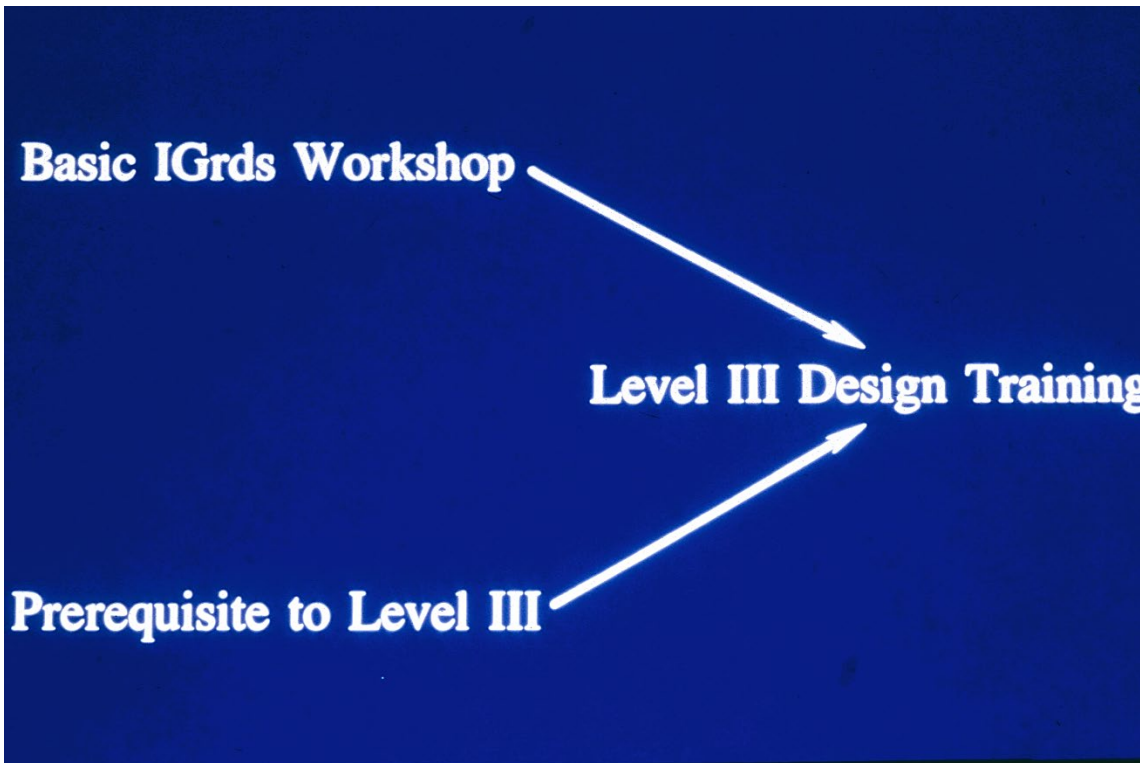
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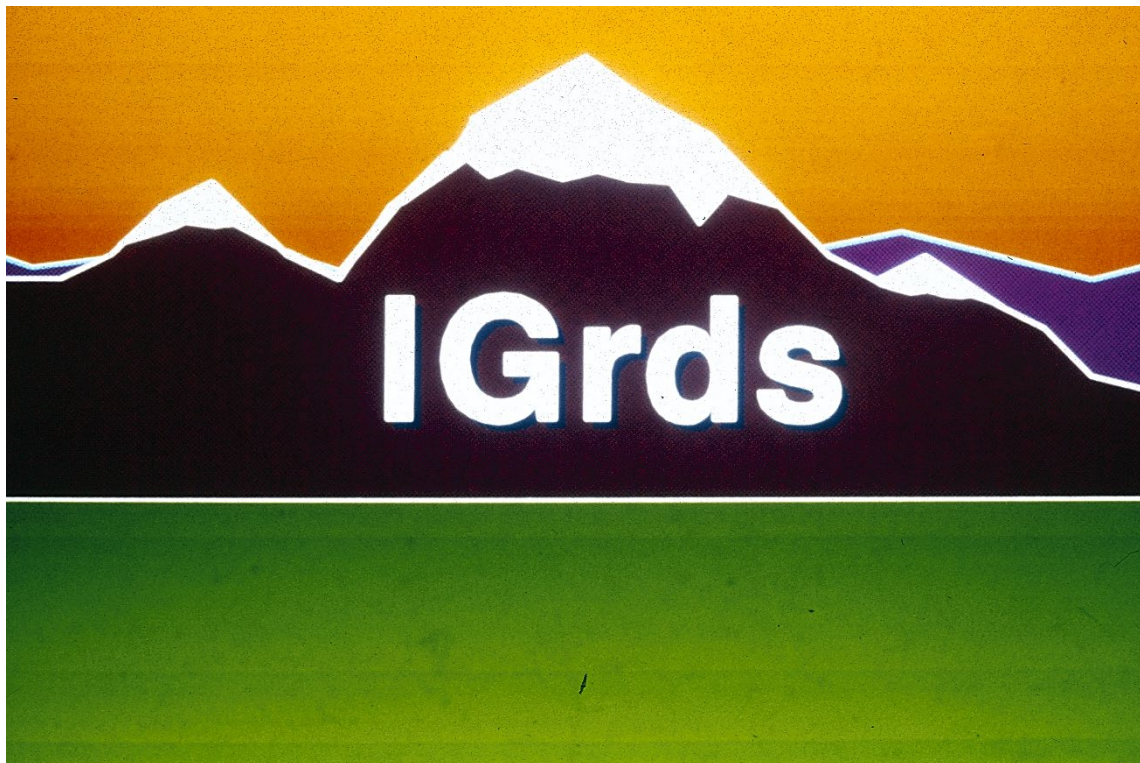


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Level III Design Training

1. Preliminary Design
2. Right-of-Way
3. Roadway Design
4. Pavement Design
5. Hydraulic Design
6. Structures Design
7. Traffic Design
8. Preparation of P S & E

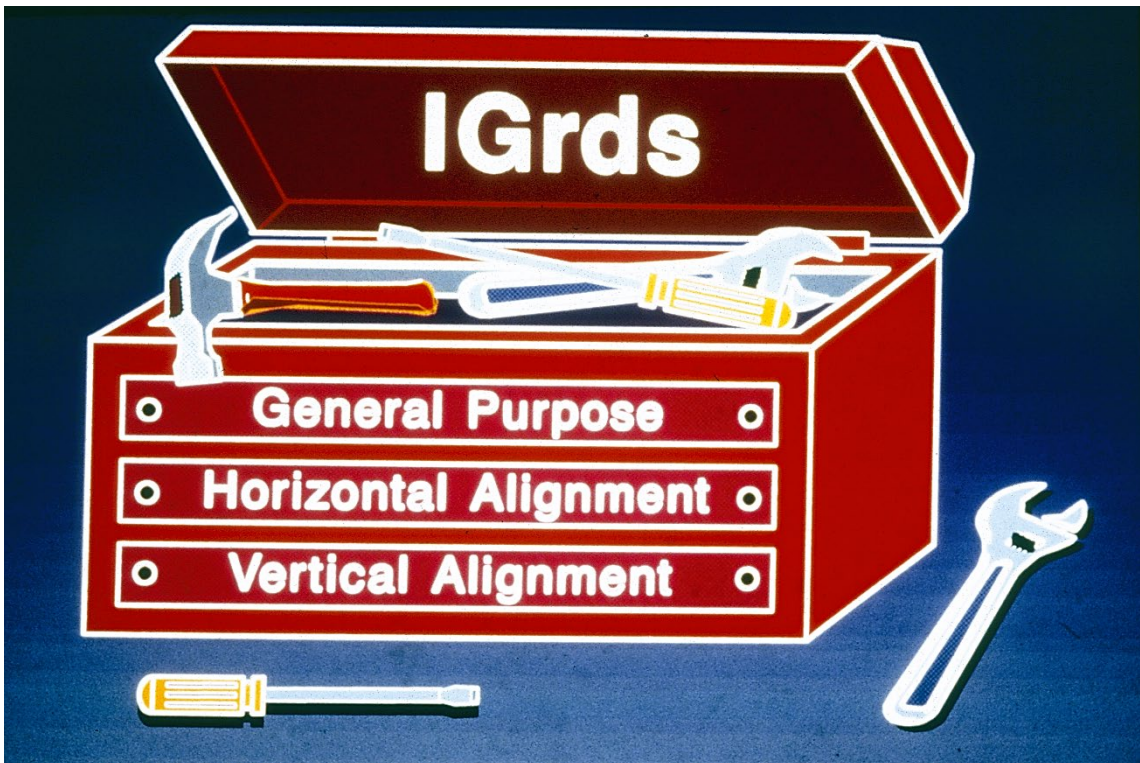
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