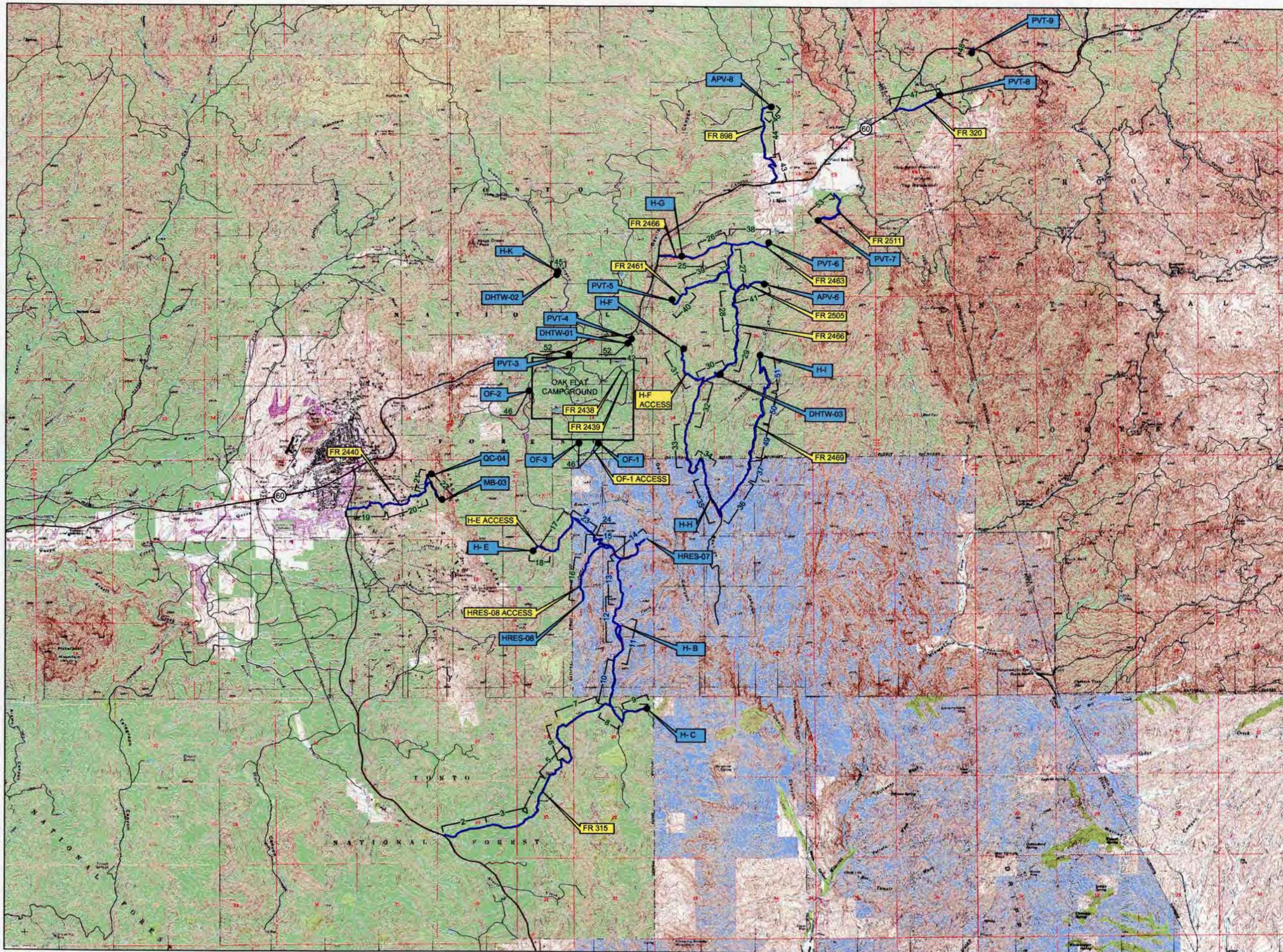


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**APPENDIX D**

**RESOLUTION  
COPPER MINING  
PLAN VIEWS OF  
PROPOSED ACTIVITIES  
AND PROFILES OF  
PROPOSED  
ACCESS ROAD  
IMPROVEMENTS  
(SHEETS 1 THROUGH 53)**



**LEGEND**

- New or Improved Road
- Well or Drill Site
- Tonto National Forest
- State Trust Lands
- 2 Sheet Number

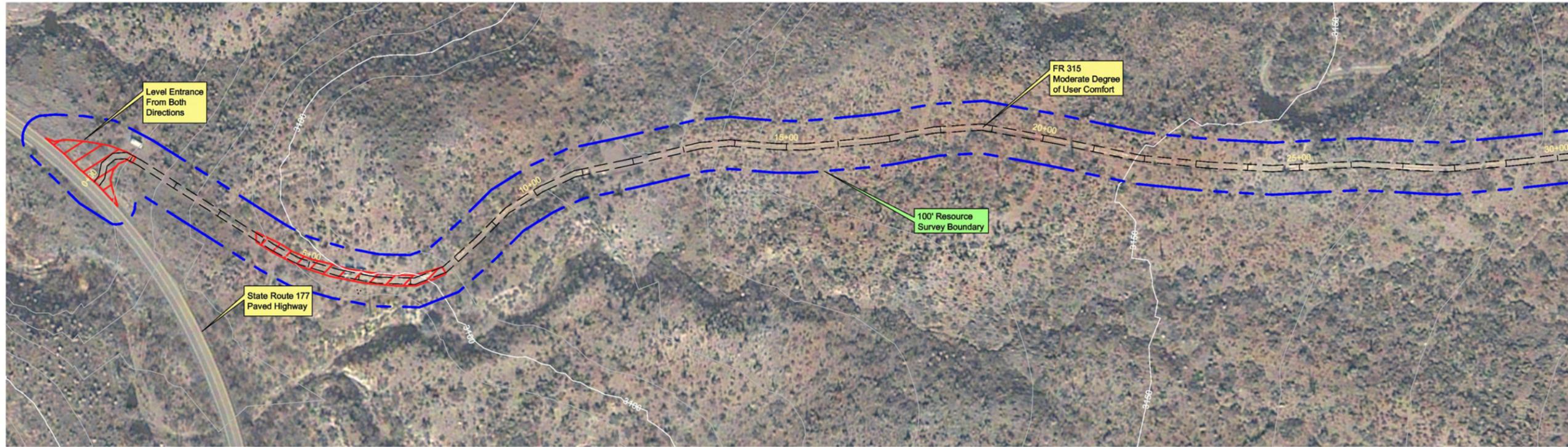
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0 1500 3000  
SCALE 1" = 3000'

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Engineering and Environmental Consultants  
4001 E. Paradise Falls Drive  
Tucson, AZ 85712 (520) 208-9585

**RESOLUTION COPPER MINING, LLC**  
Resolution Pre-Feasibility Activities  
Overview

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MATCH LINE - SEE SHEET 3

- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Rework Entrance to Allow Entry From Both Directions (SR 177)
  - Minimal New Surface Disturbance on Remaining Portions

T2S - R12E - SECTION 25

**FR 315 PROFILE**

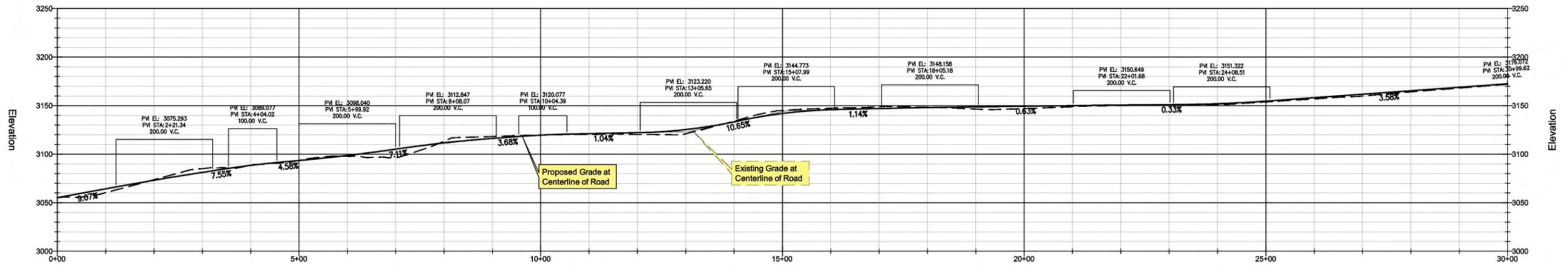


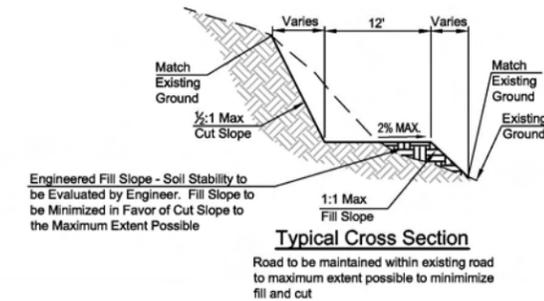
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval: 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

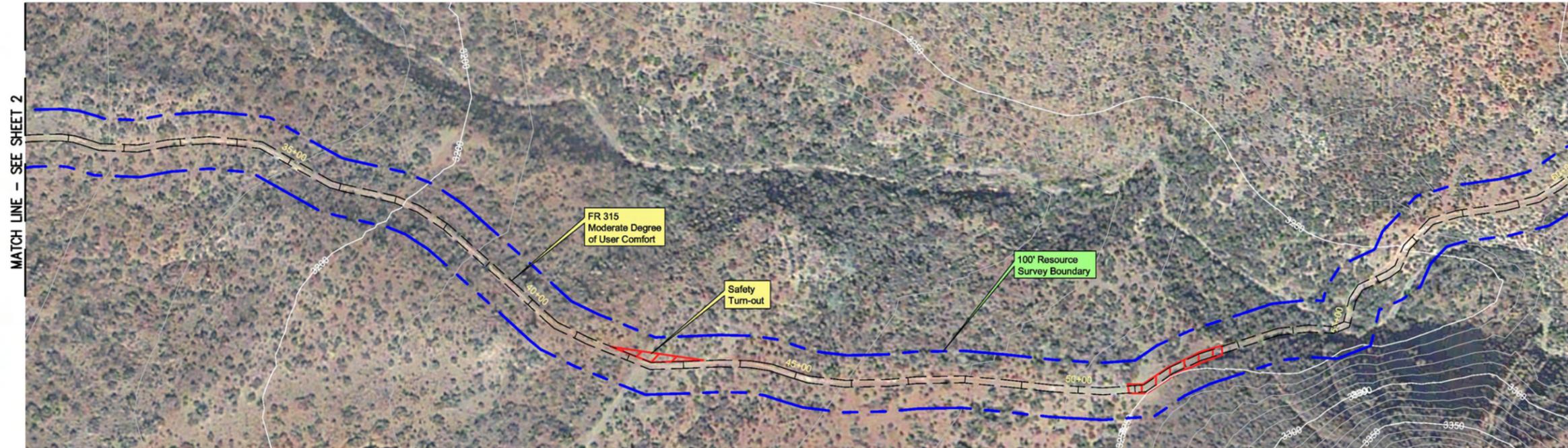
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
 Note: 100' Wide or Greater

**Forest Service Road Designations:**

- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





T2S - R12E - SECTION 25 | T2S - R13E - SECTION 30

- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Providing Safety Turn-Out
  - Minimal Disturbance on Remaining Portions

**FR 315 PROFILE**

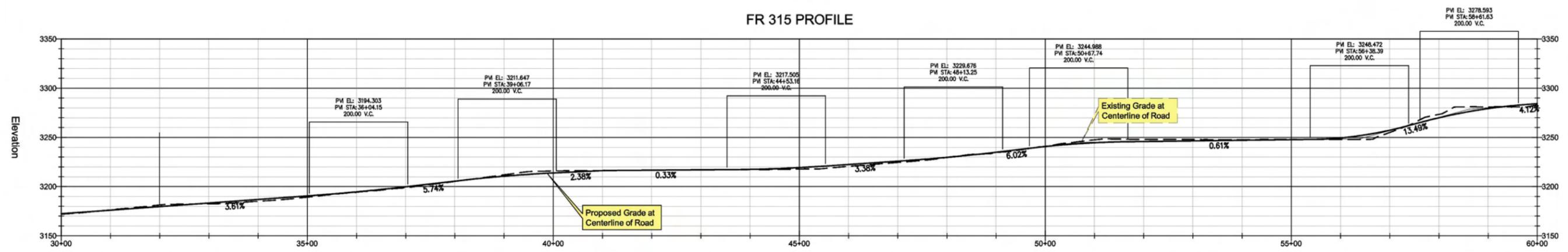
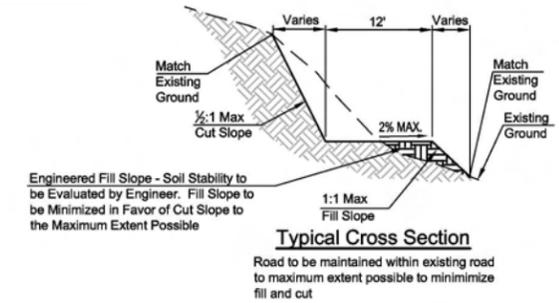


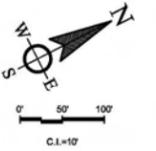
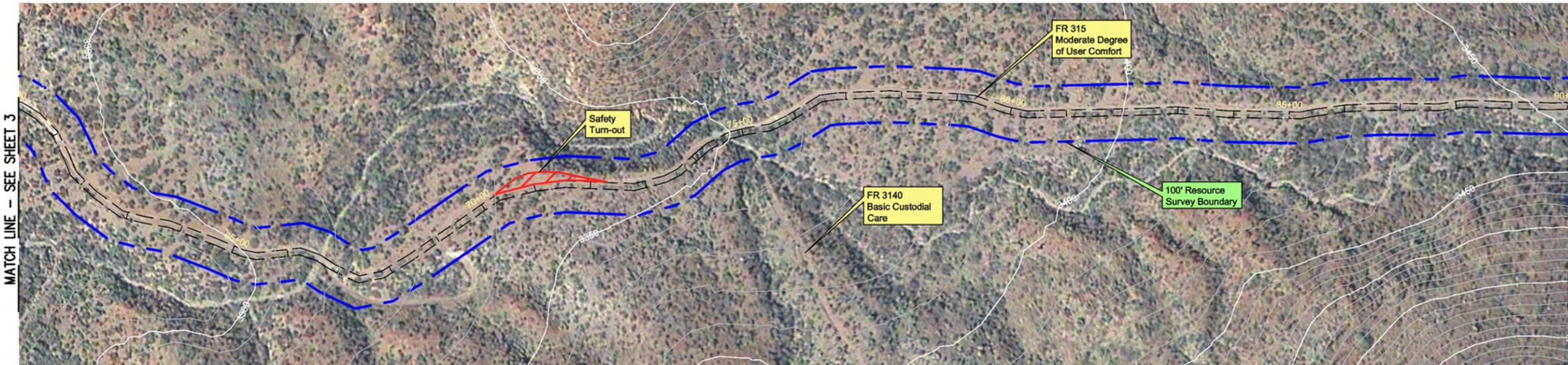
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
 Note: 100' Wide or Greater

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  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Providing Safety Turn-Out
  - Minimal Disturbance on Remaining Portions

T2S - R13E - SECTION 30

**FR 315 PROFILE**

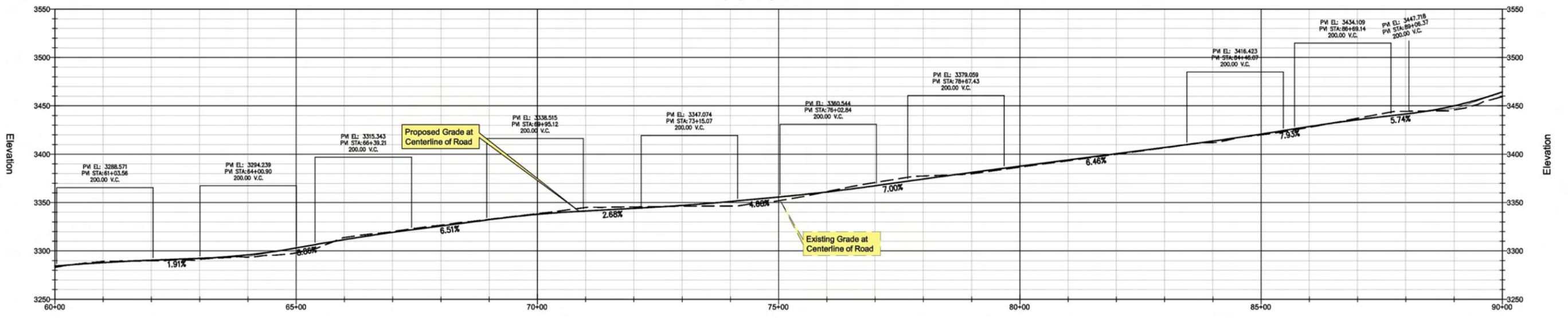
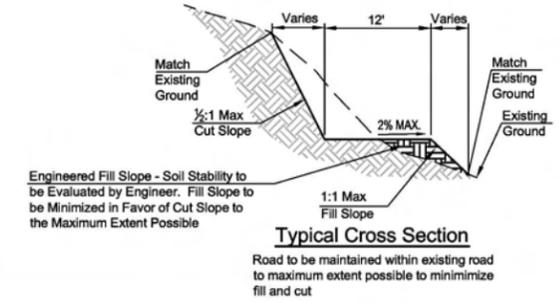
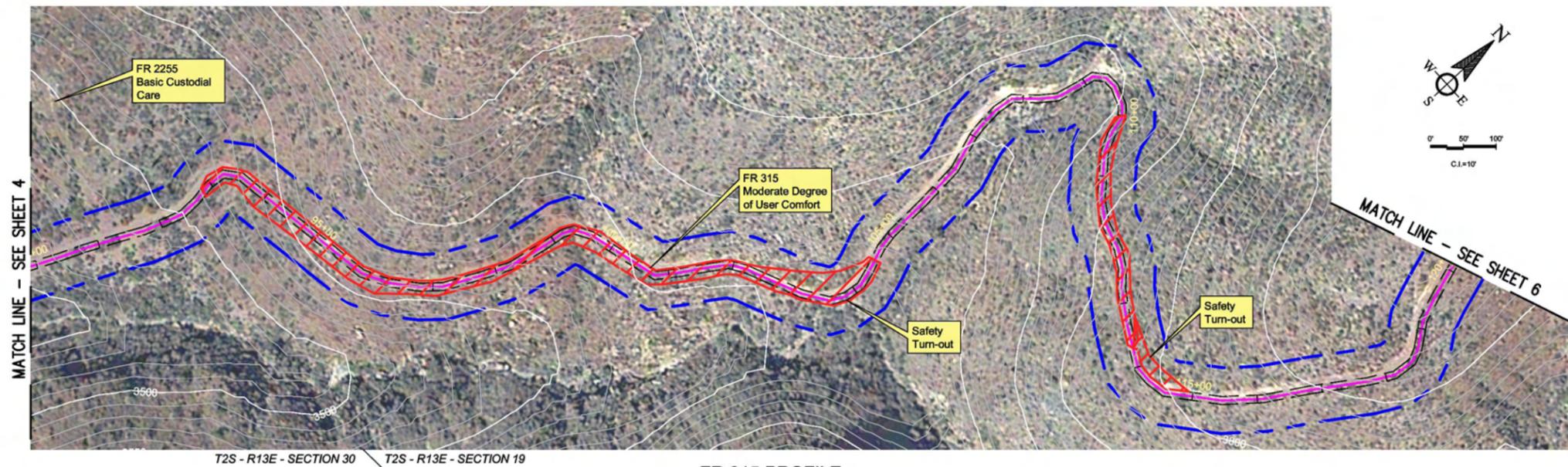


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
 Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Providing Safety Turn-Outs
  - Grading for Treatment of Existing Topography
  - Minimal Disturbance on Remaining Portions

T2S - R13E - SECTION 30 T2S - R13E - SECTION 19  
**FR 315 PROFILE**

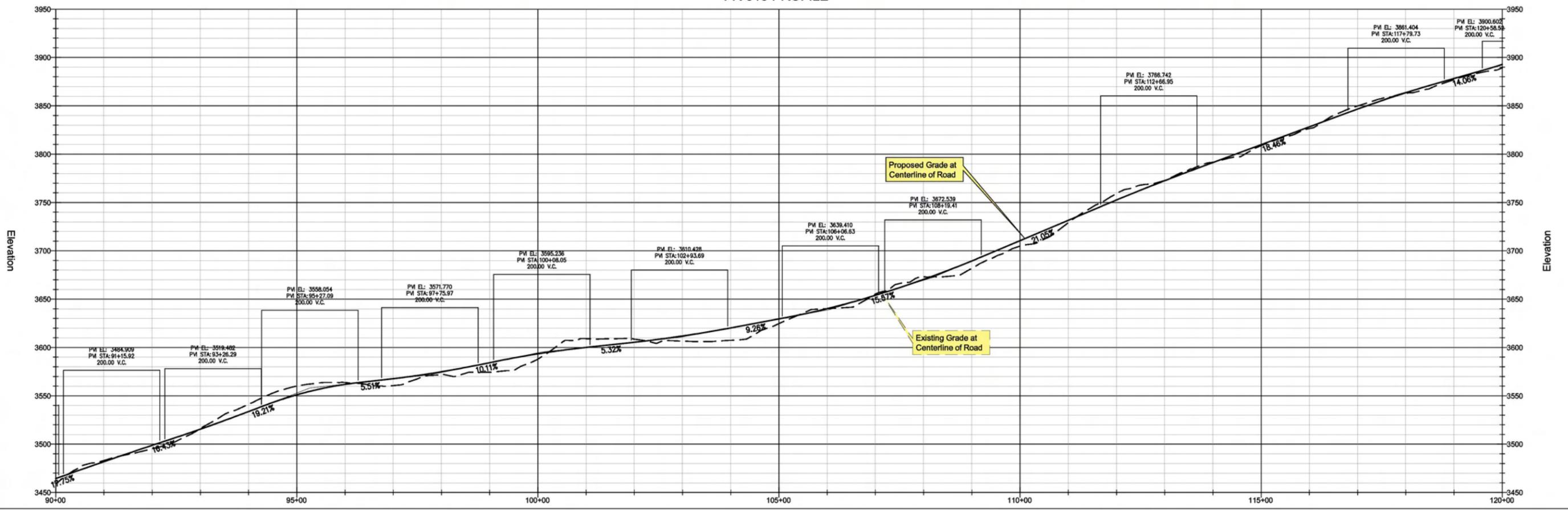
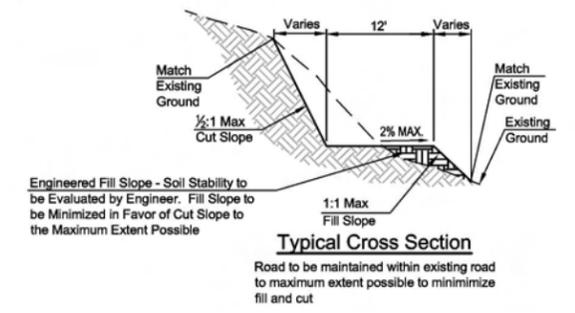


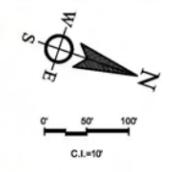
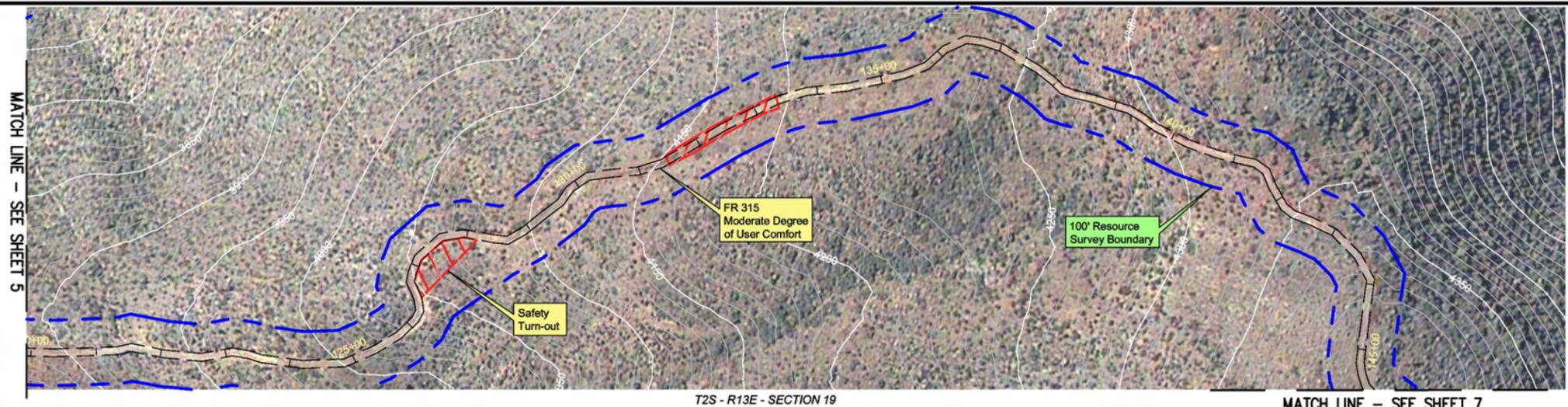
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
 Note: 100' Wide or Greater

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  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck
- This Sheet:**
- Providing Safety Turn-Out
  - Minimal Disturbance on Remaining Portions

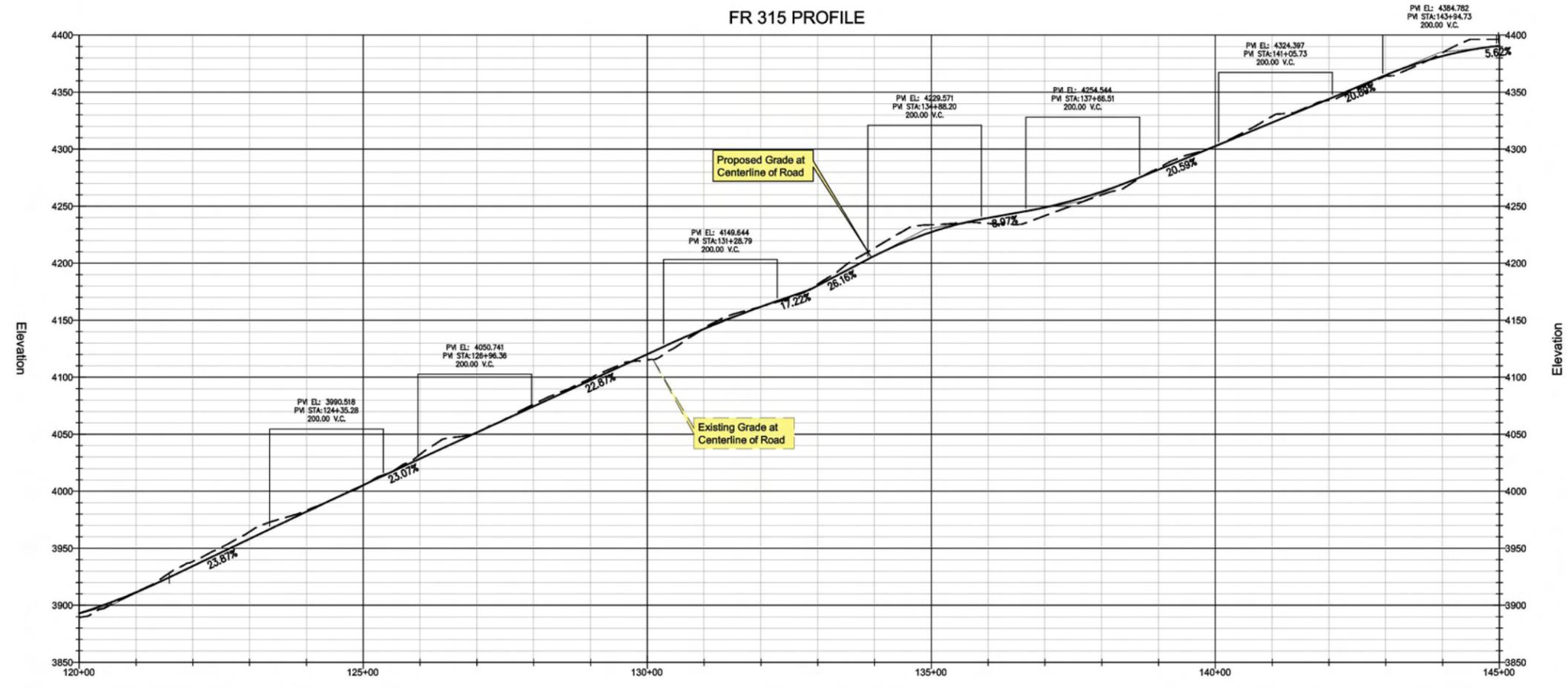
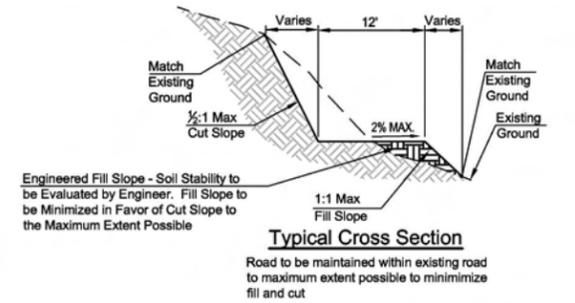


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid  
 Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
 Note: 100' Wide or Greater

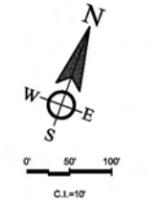
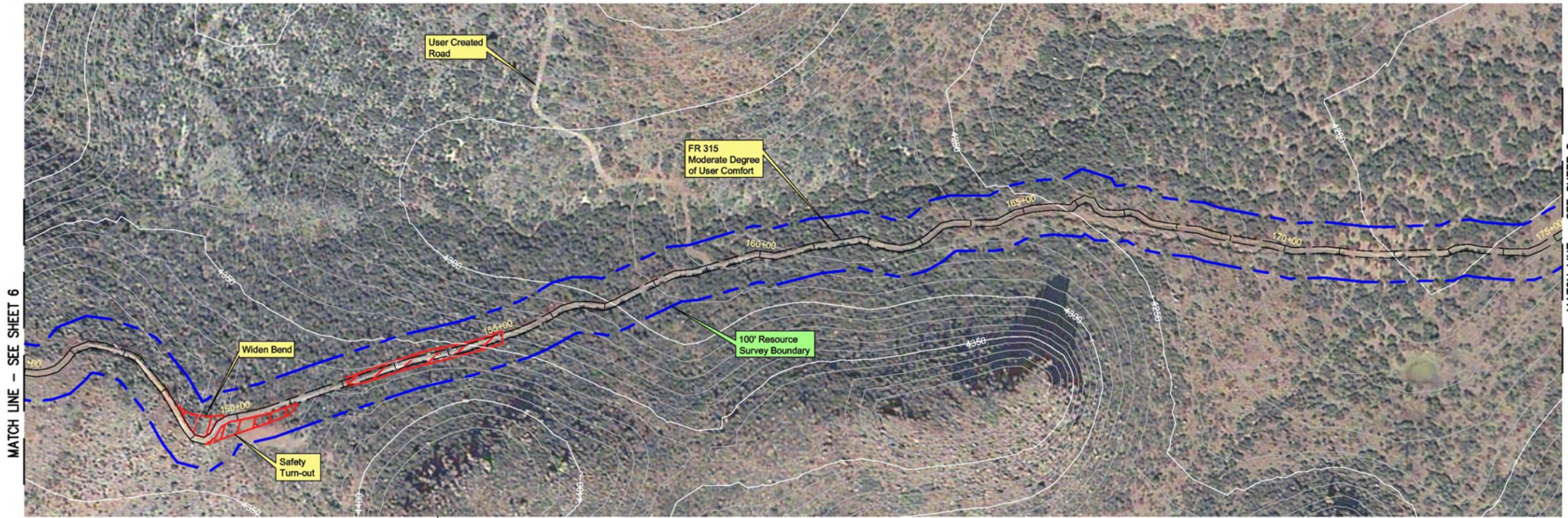
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- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 315 Improvements  
 Access To Shallow Well Site H-C

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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Providing Safety Turn-Out
  - Widening Bend for Safety
  - Minimal Disturbance on Remaining Portions

T2S - R13E - SECTION 19 / T2S - R13E - SECTION 20

**FR 315 PROFILE**

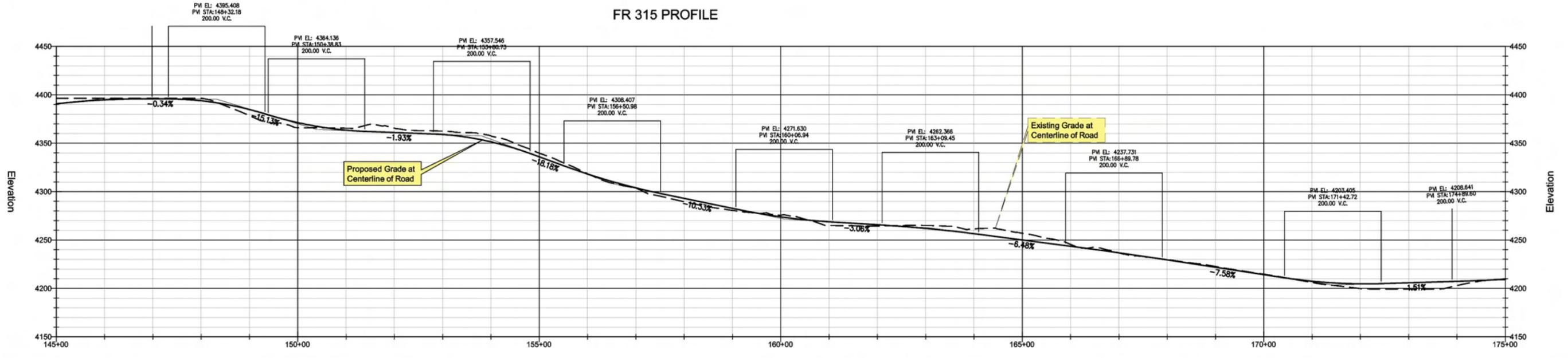


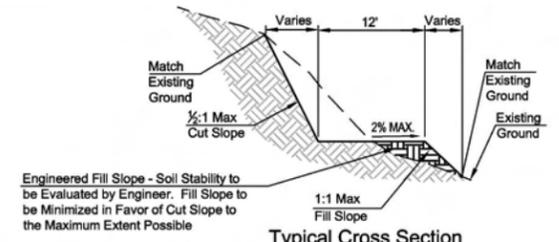
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

**Forest Service Road Designations:**

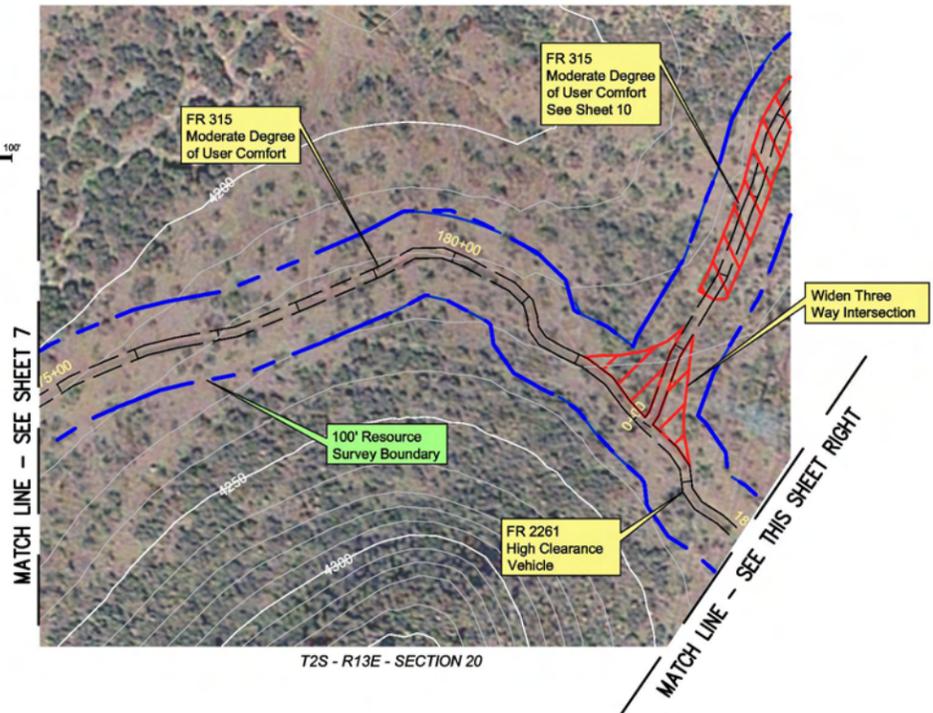
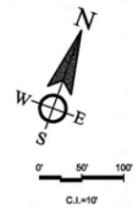
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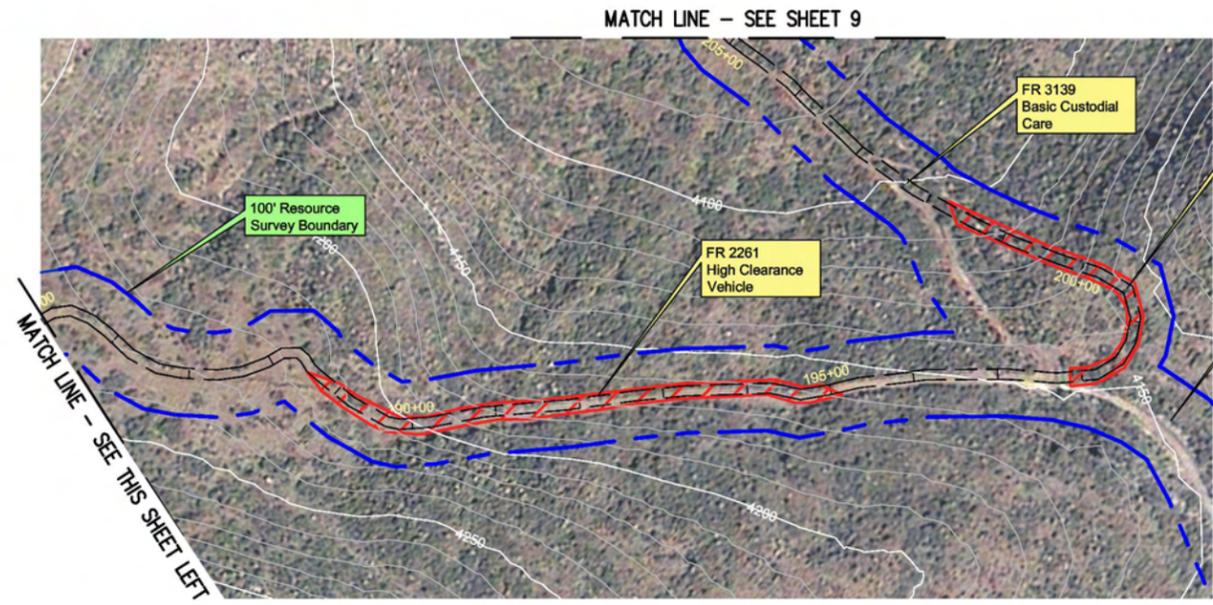
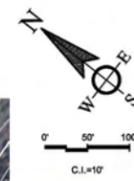
**Typical Cross Section**

Road to be maintained within existing road to maximum extent possible to minimize fill and cut

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T2S - R13E - SECTION 20



T2S - R13E - SECTION 20

- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Widening 3-Way Intersection
  - Re-Routing Existing Turn to Improve Radius
  - Minimal Disturbance on Remaining Portions

FR 315, FR 2261, AND FR 3139 PROFILE

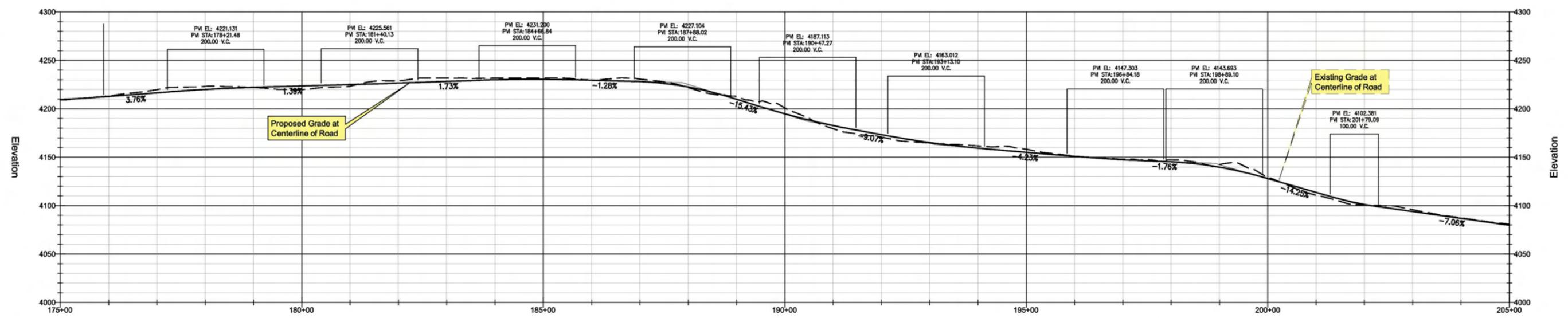
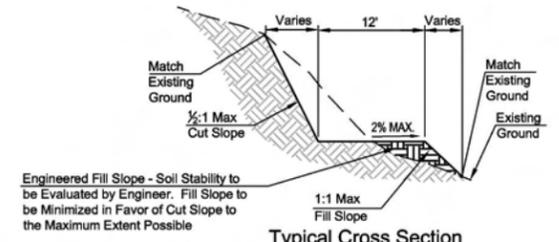


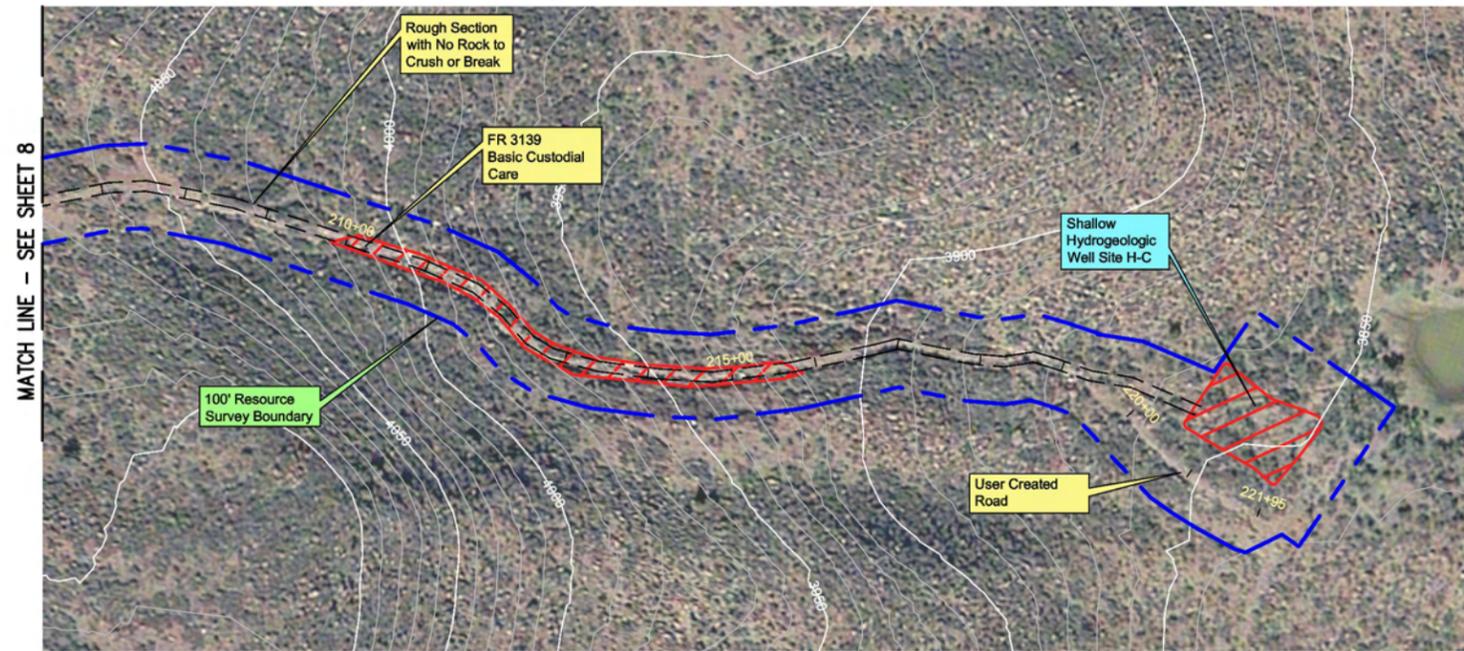
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 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Mud Tank
  - Heavy Duty Air Compressor
  - Pipe Trucks
  - Water Storage Tank
  - Generators For Drill Rig
  - Backhoe
  - Water Truck

- This Sheet:**
- Portions of Road Are Rough with No Rocks to Break or Crush
  - Reworking of Roadway Materialing Required - Possibly Bringing Fill from Upper Portions of Road.
  - Clearing and Grading for H-C Pad
  - An Archaeological Monitor Will Be Present for H-C Clearing Activities

T2S - R13E - SECTION 20

**FR 3139 PROFILE**

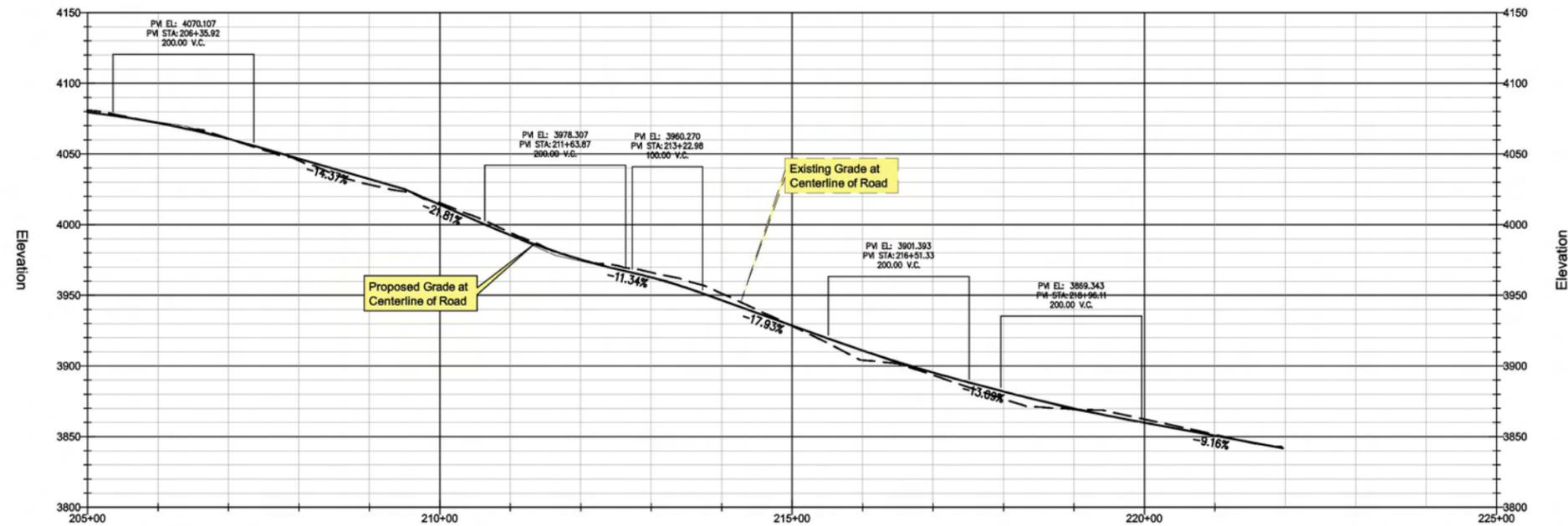


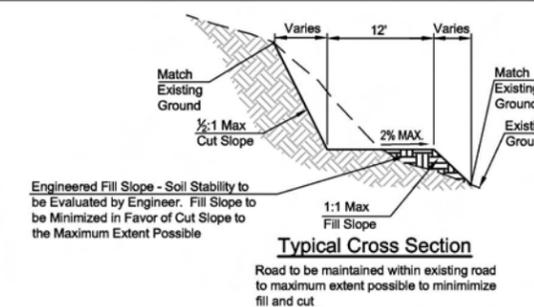
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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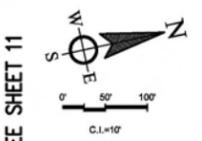
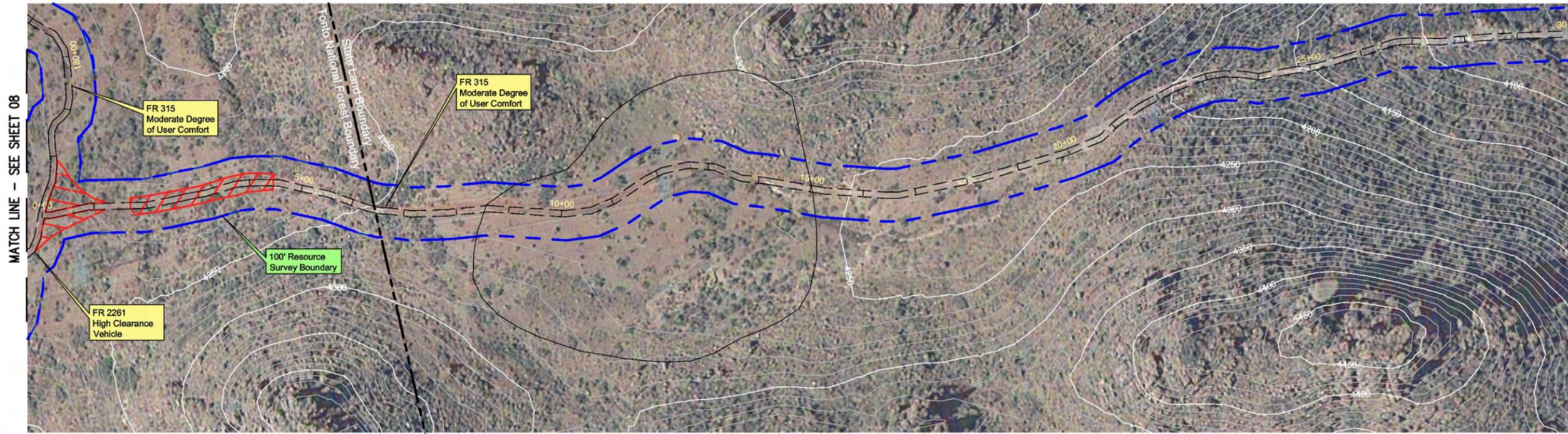
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
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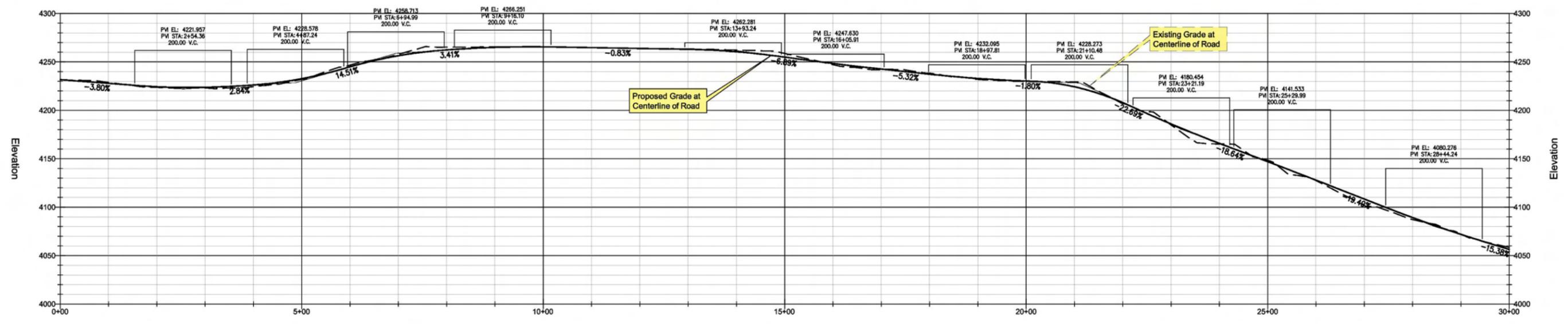


- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road on Forest Lands
  - Widening Portion of Road for Access

T2S - R13E - SECTION 20 | T2S - R13E - SECTION 17

**EXTENSION OF FR 315 PROFILE (PARTIALLY ON STATE LAND)**

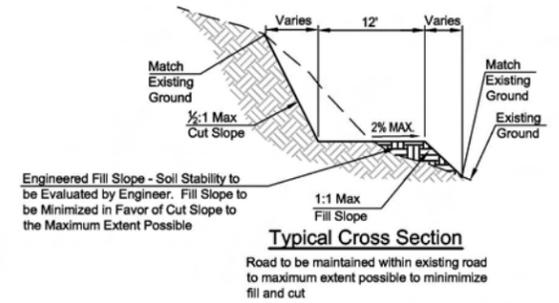


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Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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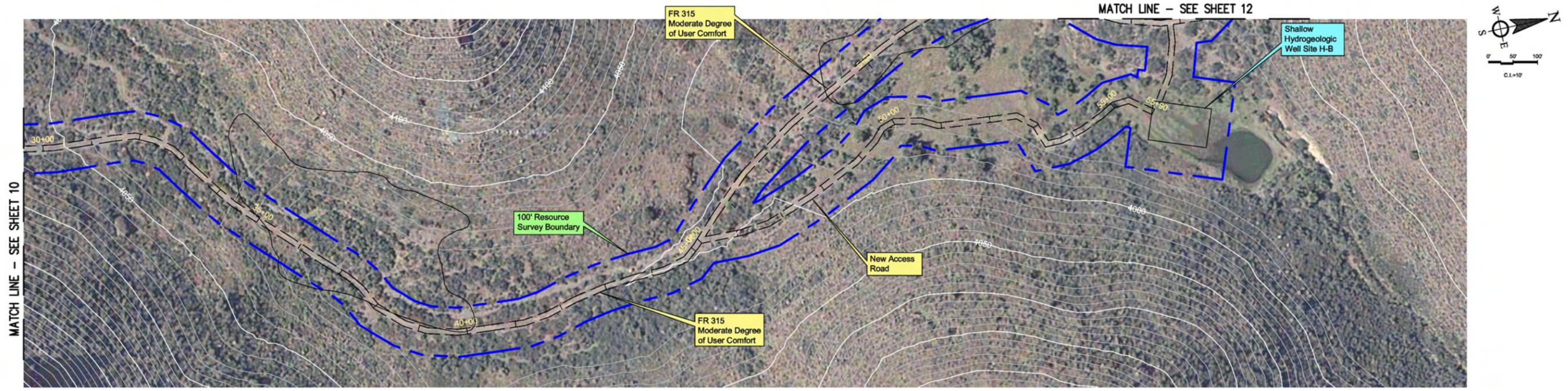
- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
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  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



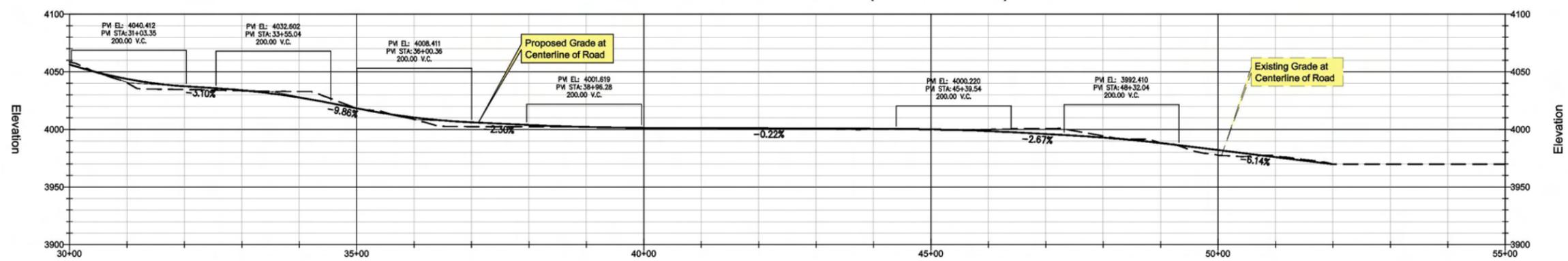
**WestLand Resources Inc.**  
 Engineering and Environmental Consultants  
 4001 E. Paradise Falls Drive  
 Tucson, Az. 85712 (520) 206-9555

**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 315 Improvements  
 Partially on State Land  
 Sheet 10 of 53



T2S - R13E - SECTION 17

**EXTENSION OF FR 315 PROFILE (ON STATE LAND)**



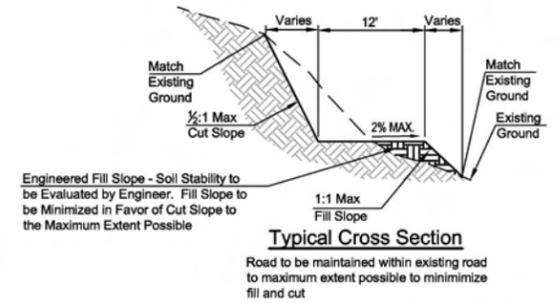
Equipment List	
Track Hoe	
Hammer Hoe	
Front End Loader	
Tracked Jaw Crusher	
Lang LM-140 Series Tophead	
Rotary Drill Rig Or Equivalent	
Pipe Trucks	
Backhoe	
Water Truck	

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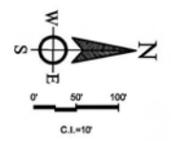
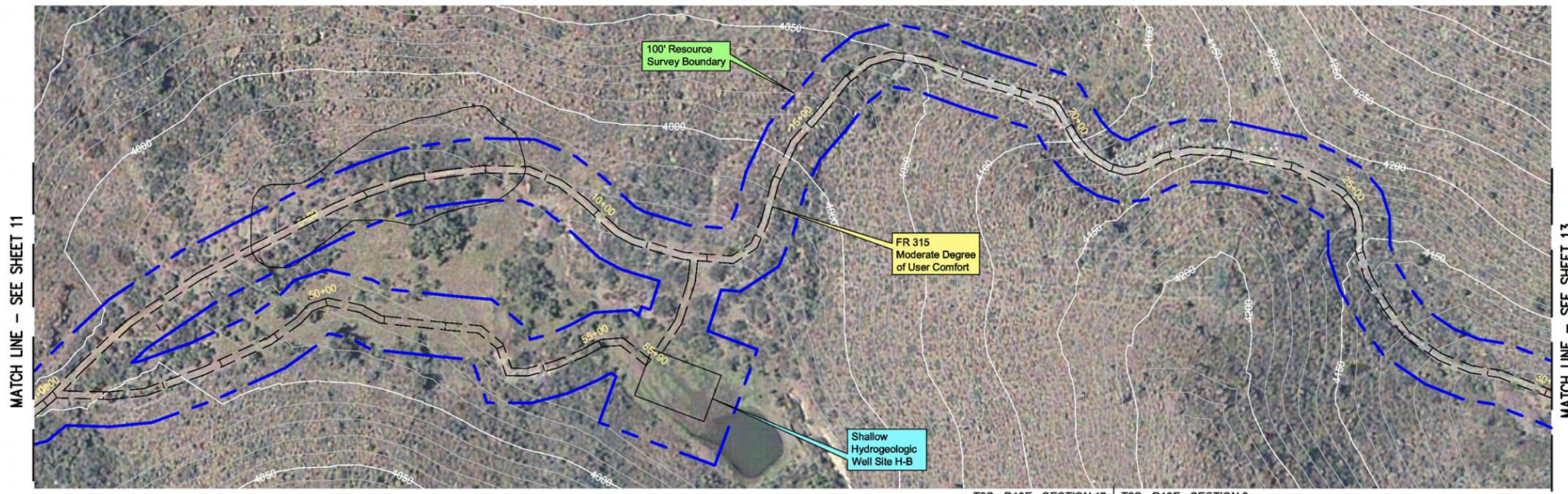
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid  
 Abrupt Transition Between Grades

Legend	
	Existing Road - To Be Improved
	Approximate Area of Cut/ Fill
	T-Post and Wire Clear Limit Fencing Note: All Fencing to be placed by Qualified Monitors Prior to Construction
	National Forest Boundary
	Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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**Equipment List**

- Track Hoe
- Hammer Hoe
- Front End Loader
- Tracked Jaw Crusher
- Lang LM-140 Series Tophead
- Rotary Drill Rig Or Equivalent
- Pipe Trucks
- Backhoe
- Water Truck

T2S - R13E - SECTION 17 | T2S - R13E - SECTION 8

**EXTENSION OF FR 315 PROFILE (ON STATE LAND)**

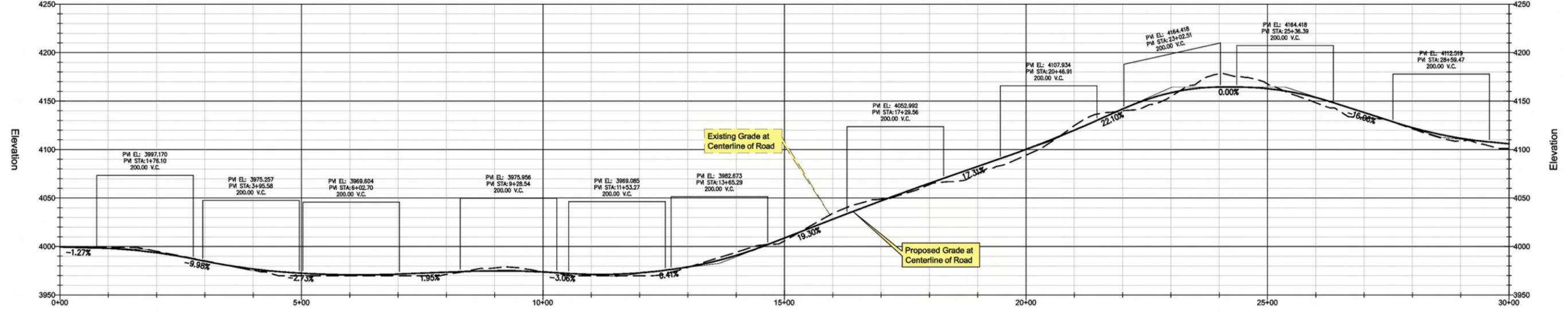
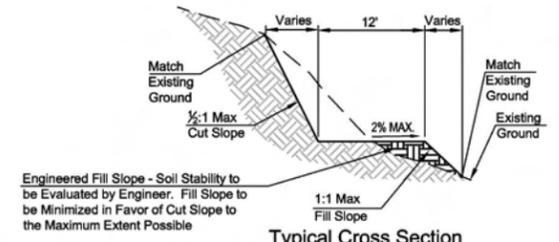


Image Source: Digit. Globe QuickBird Dataset  
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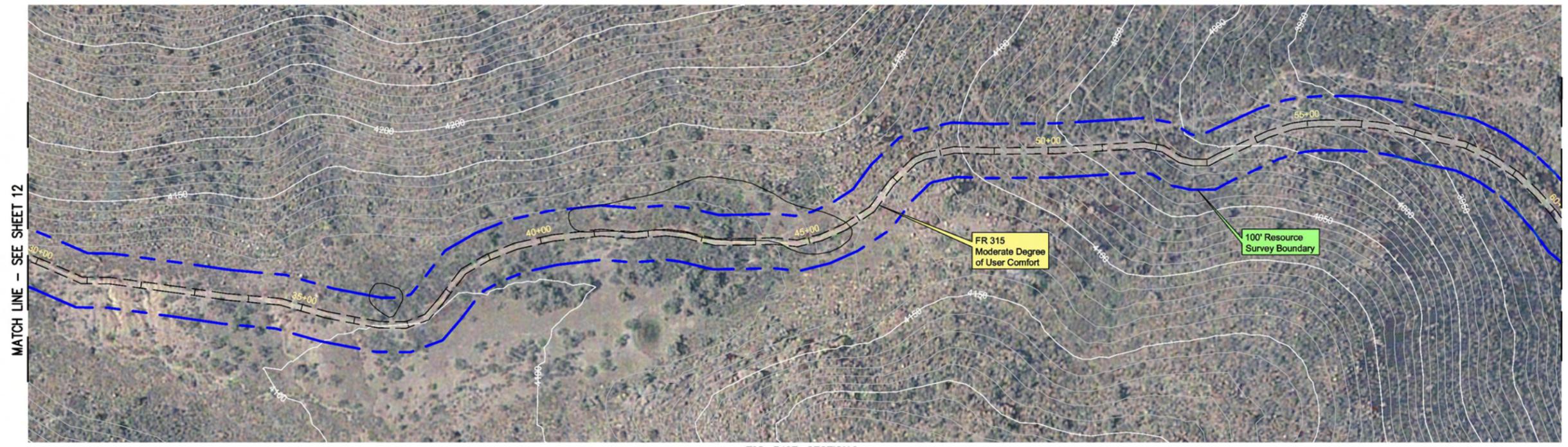
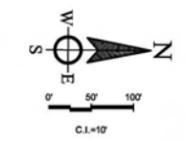
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
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  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



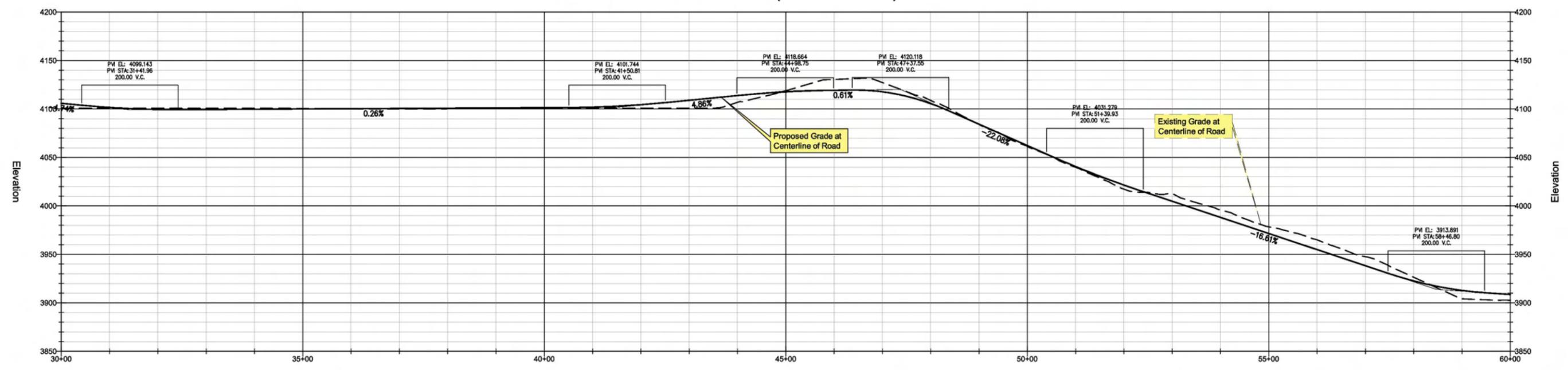
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T2S - R13E - SECTION 8

Equipment List	
Track Hoe	
Hammer Hoe	
Front End Loader	
Tracked Jaw Crusher	
Lang LM-140 Series Tophead	
Rotary Drill Rig or Equivalent	
Pipe Trucks	
Backhoe	
Water Truck	

**EXTENSION OF FR 315 PROFILE ( ON STATE LAND)**



**Legend**

	Existing Road - To Be Improved
	Approximate Area of Cut/ Fill
	T-Post and Wire Clear Limit Fencing Note: All Fencing to be placed by Qualified Monitors Prior to Construction
	National Forest Boundary
	Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
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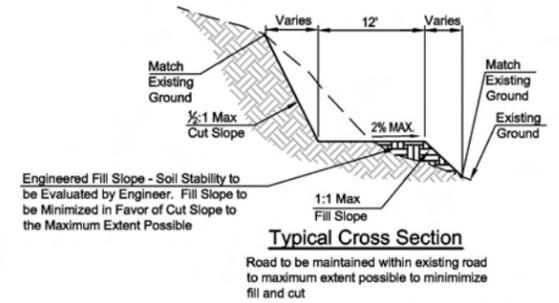
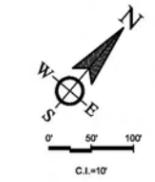


Image Source: Digit. Globe QuickBird Dataset  
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T2S - R13E - SECTION 8

**HRES-07 ACCESS PROFILE (OCCURS ON STATE LAND, WORK COMPLETED)**

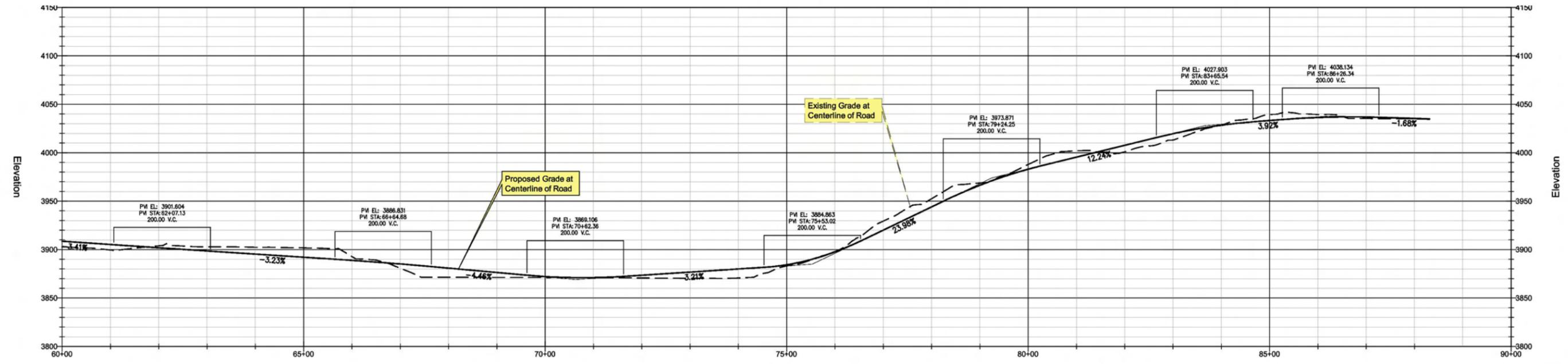
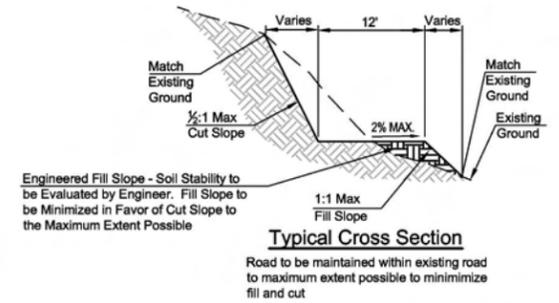


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





T2S - R13E - SECTION 8



T2S - R13E - SECTION 8

**EXTENSION OF FR 315 AND HRES-08 ACCESS PROFILE (OCCURS ON STATE LAND, WORK COMPLETED)**

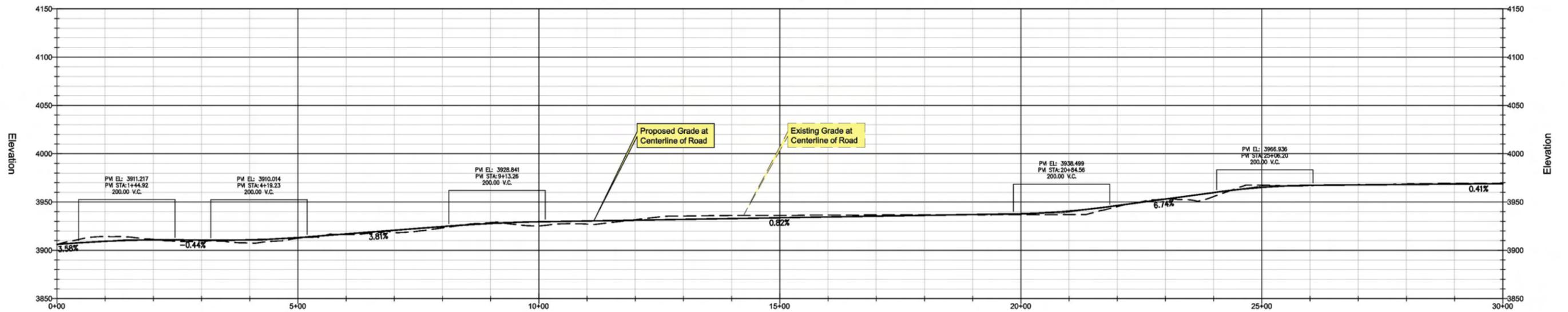


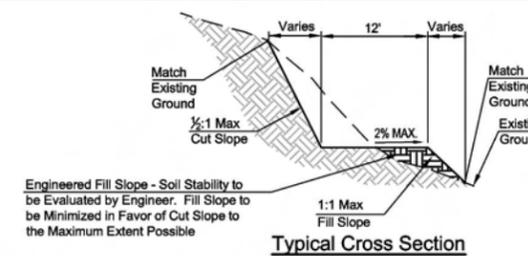
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid  
 Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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T2S - R13E - SECTION 8

**HRES-08 ACCESS PROFILE (OCCURS ON STATE LAND, WORK COMPLETED)**

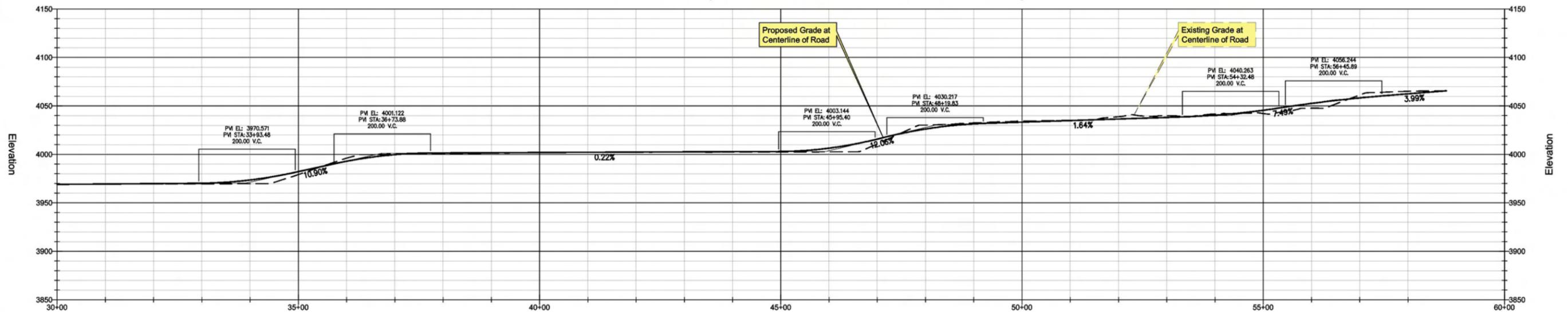


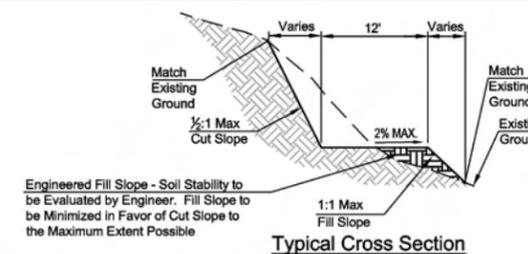
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid  
 Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

**Forest Service Road Designations:**

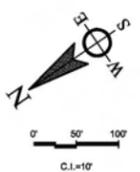
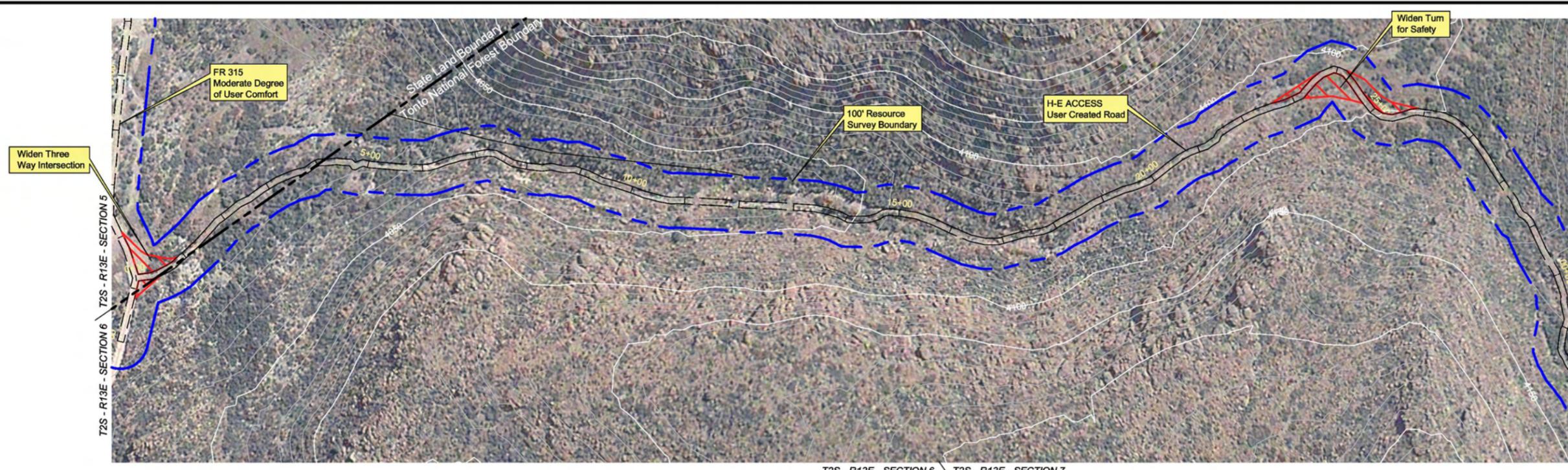
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



**Typical Cross Section**

Road to be maintained within existing road to maximum extent possible to minimize fill and cut

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- Equipment List**
- Track Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Backhoe
  - Water Truck

- This Sheet:**
- Minimal New Surface
  - Disturbance - Grading of Existing Road
  - Widening Turn for Safety
  - Widening 3-way Intersection

MATCH LINE - SEE SHEET 18

T2S - R13E - SECTION 6 T2S - R13E - SECTION 7

**USER CREATED ROAD (H-E ACCESS) PROFILE**

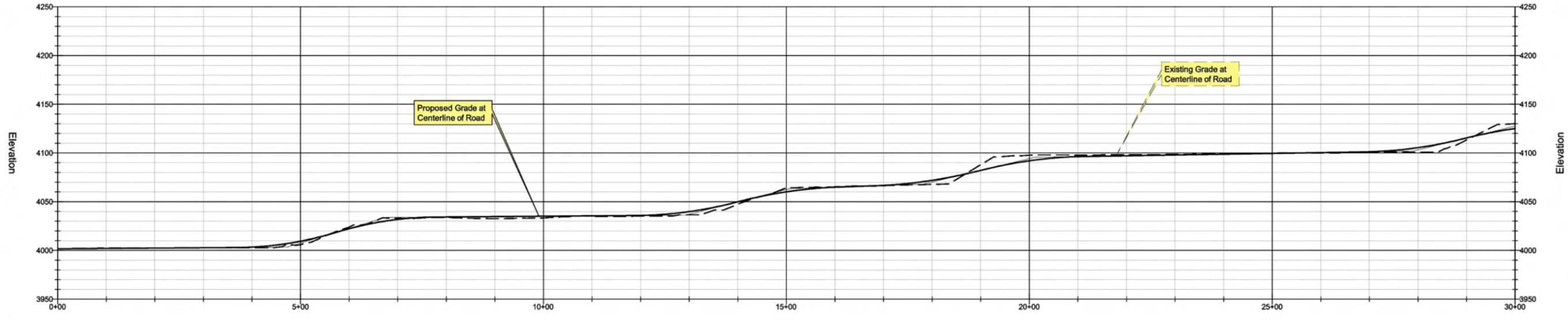
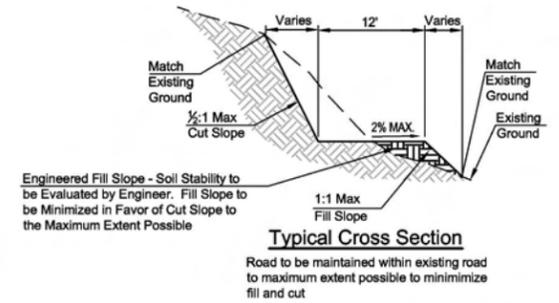


Image Source: Digit. Globe QuickBird Dataset  
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 Contour Interval= 10'  
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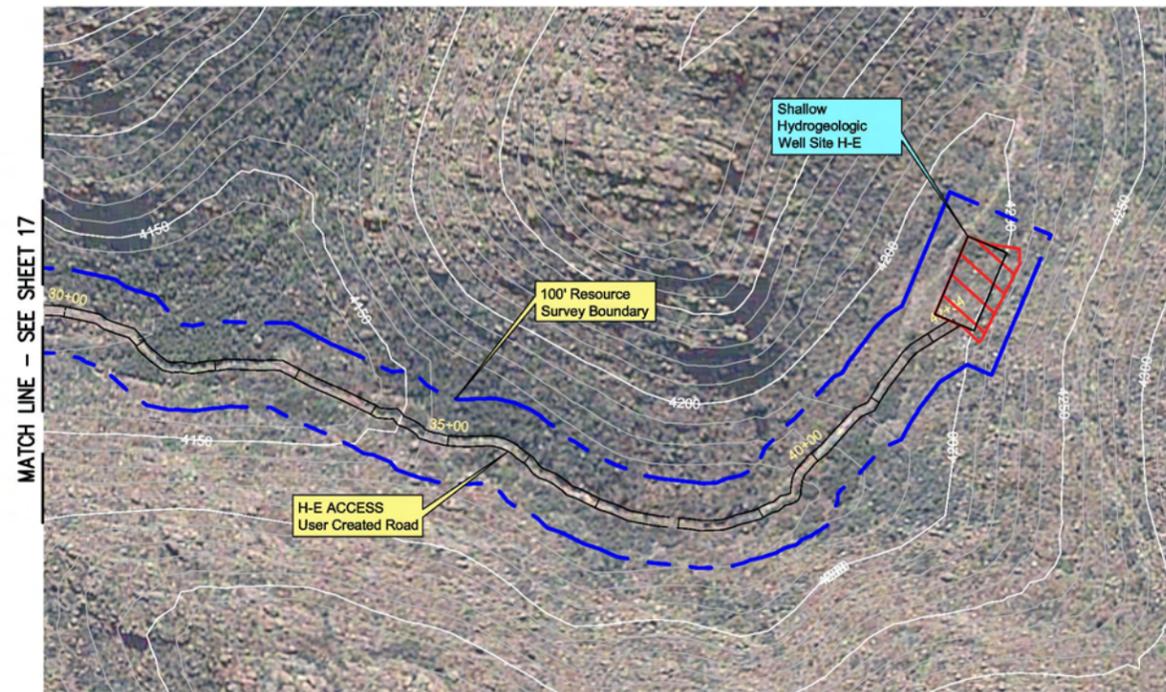
- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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T2S - R13E - SECTION 7



- Equipment List**
- Lang LM-140 Series Tophead Rotary Drill Rig Or Equivalent
  - Mud Tank
  - Heavy Duty Air Compressor
  - Pipe Trucks
  - Water Storage Tank
  - Generators For Drill Rig
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Clearing and Grading for H-E Pad
  - Rock Removed From Excavation of Drill Site H-E Will Be Crushed and Used to Dress Road Surface

**USER CREATED ROAD (H-E ACCESS) PROFILE**

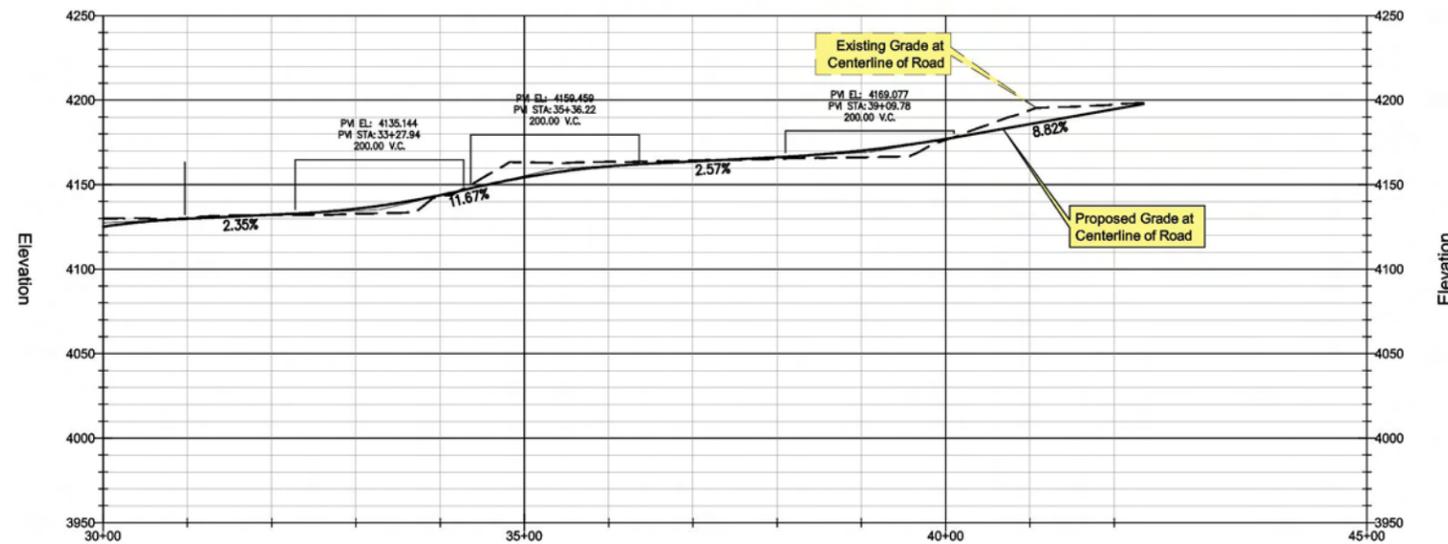
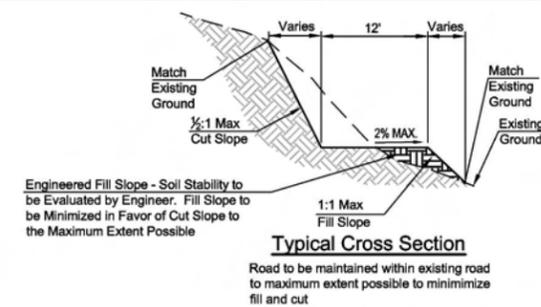


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

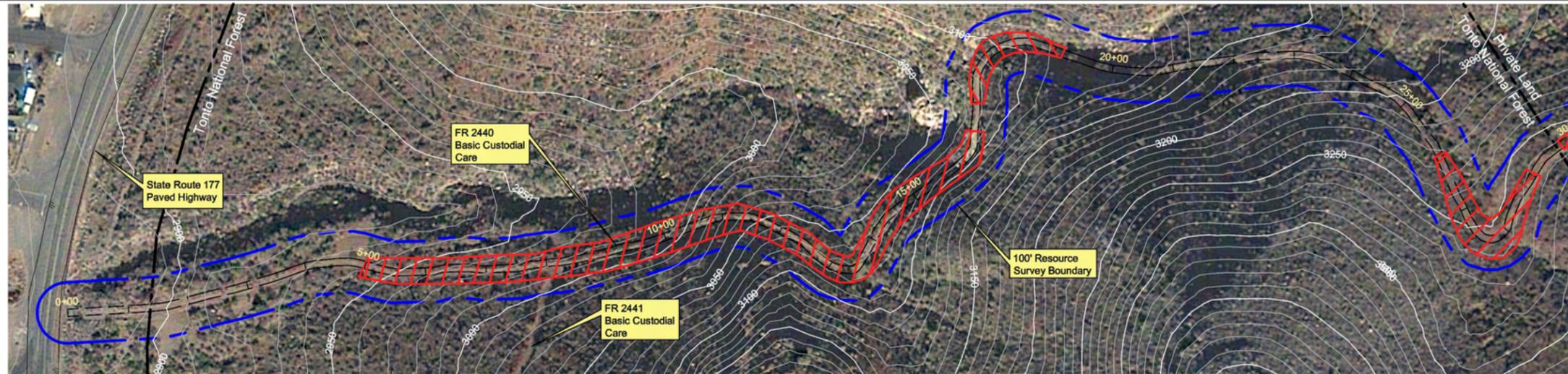
- Forest Service Road Designations:**
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**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 Improvements to User Created Road  
 Access To Shallow Well Site H-E

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MATCH LINE - SEE SHEET 20

- Equipment List**
- Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Cat Bulldozer
  - Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Water Truck
  - LF-90 Rotary Drill Rig

- This Sheet:**
- Grading of Existing Road
  - Widening Turns for Safety

T2S - R12E - SECTION 3 | T2S - R12E - SECTION 2

**FR 2440 PROFILE**

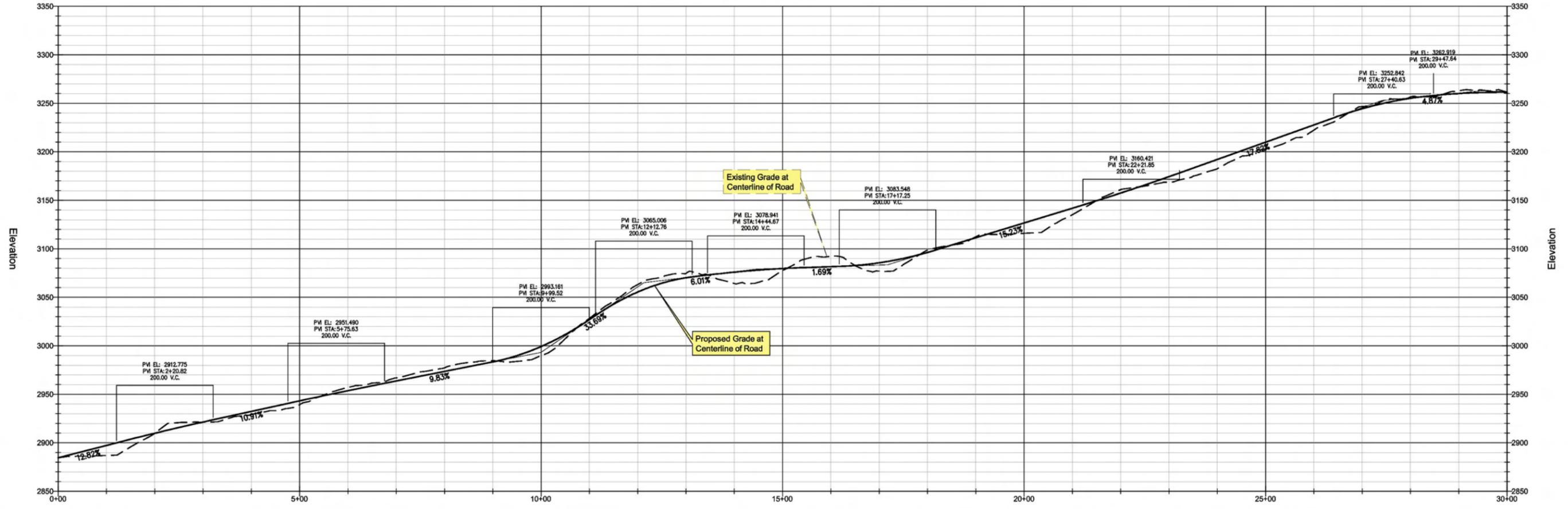
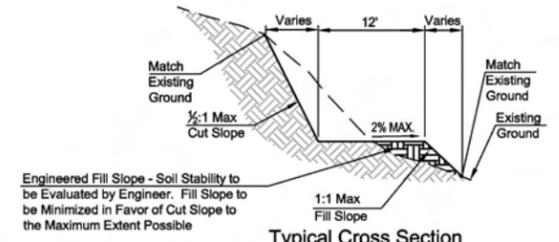


Image Source: Digit. Globe QuickBird Dataset  
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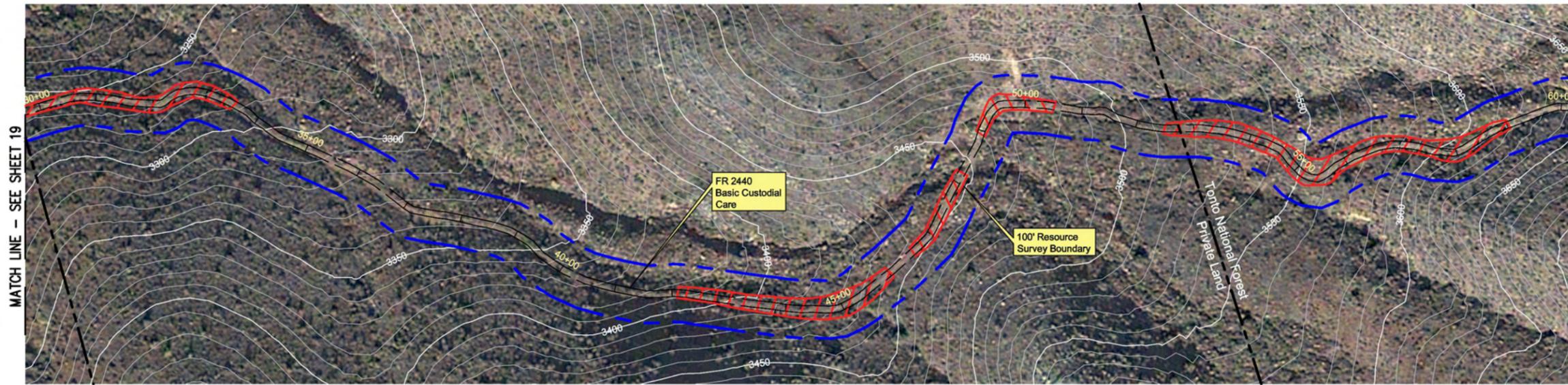
- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
 Note: 100' Wide or Greater

- Forest Service Road Designations:**
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**Typical Cross Section**  
 Road to be maintained within existing road to maximum extent possible to minimize fill and cut

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**This Sheet:**

- Grading of Existing Road
- Widening Turn for Safety
- An Archaeological Monitor Will Be Present for Clearing Activities Within AR-03-12-02-1517(TNF)

**FR 2440 PROFILE**

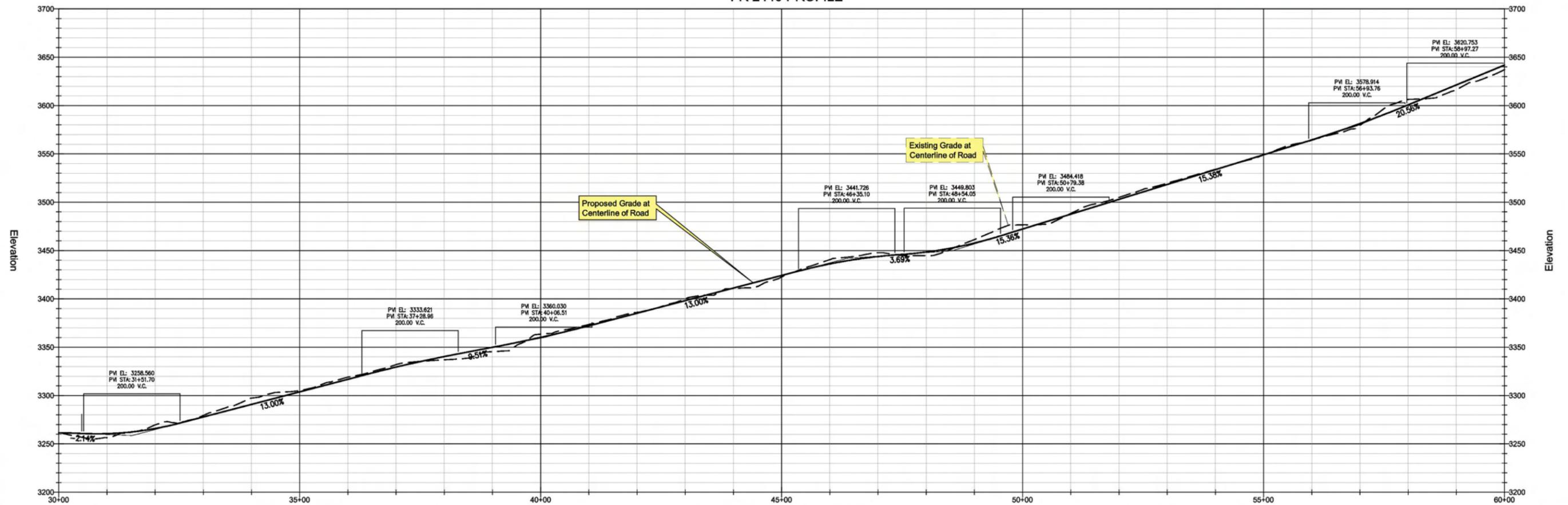


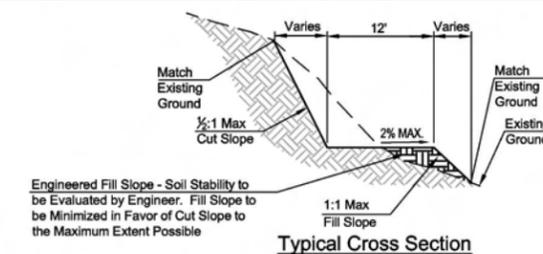
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

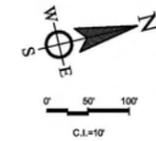
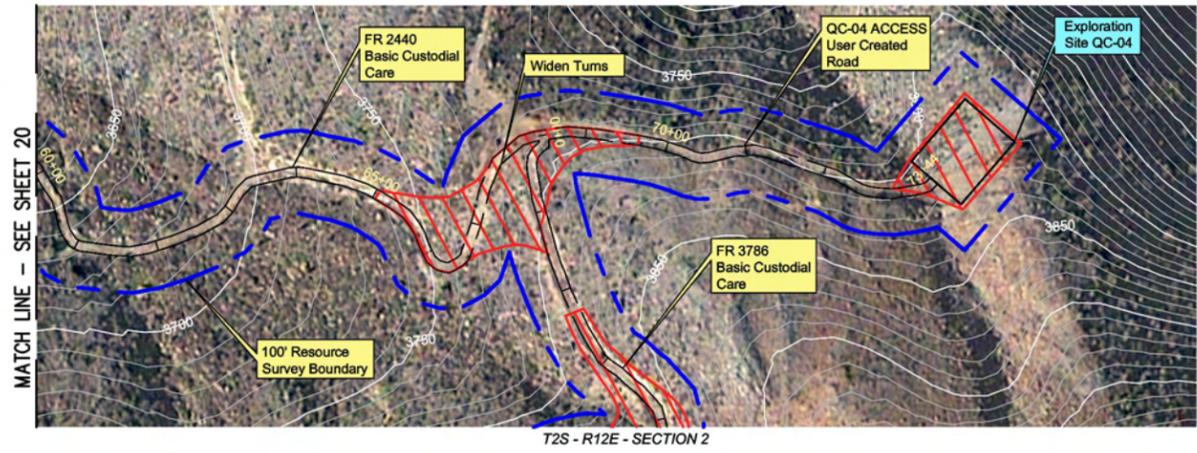
**Forest Service Road Designations:**

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**Typical Cross Section**

Road to be maintained within existing road to maximum extent possible to minimize fill and cut



- Equipment List**
- Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Water Storage Tank
  - Generators For Drill Rig
  - Cat Bulldozer
  - Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Water Truck
  - Mud Truck
  - LF-90 Rotary Drill Rig

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening Bends for Safety
  - Clearing and Grading for QC-04 Pad
  - Rock Removed From Excavation of Drill Site QC-04 Will Be Crushed and Used to Dress Road Surface
  - An Archaeological Monitor Will Be Present for Clearing Activities Within AR-03-12-02-1517(TNF)

**FR 2440 PROFILE**

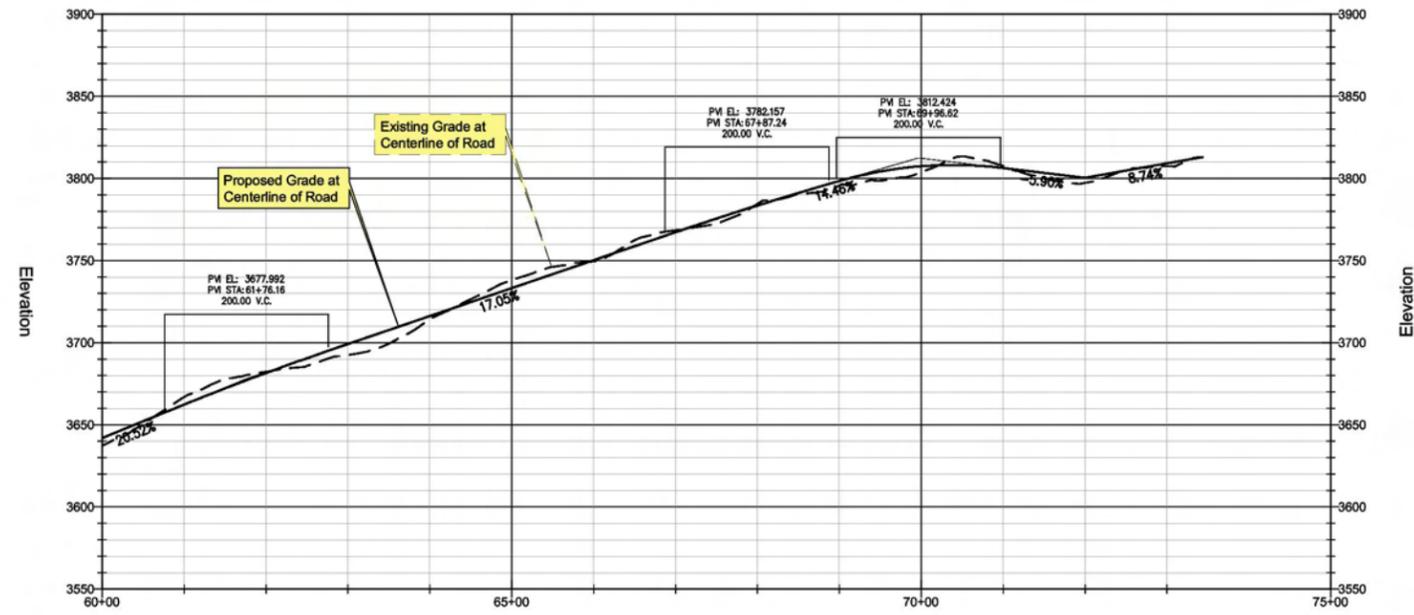
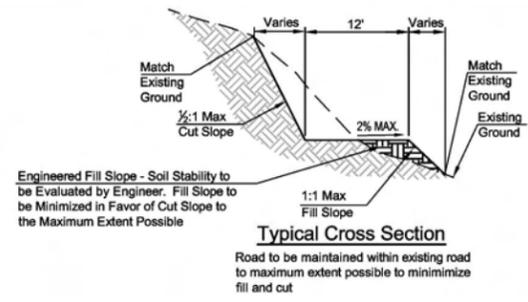


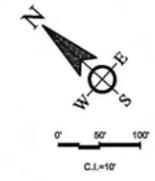
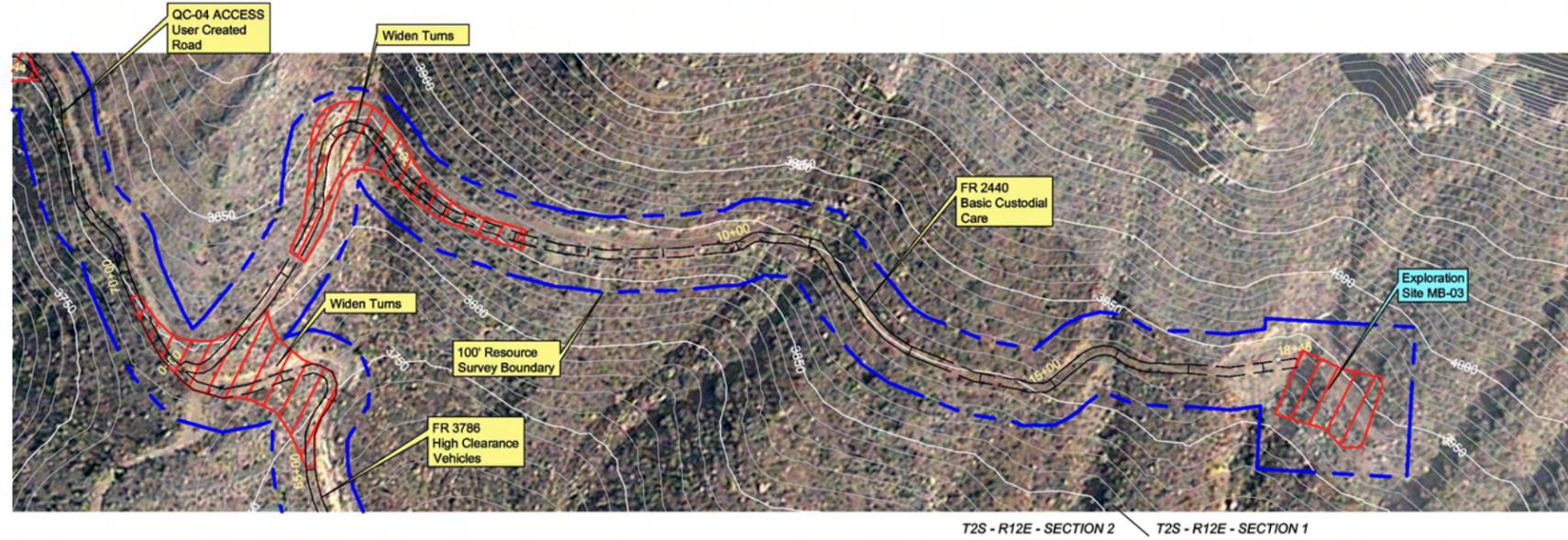
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 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
 Note: 100' Wide or Greater

- Forest Service Road Designations:**
- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
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  - High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Mud Tank
  - Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Water Storage Tank
  - Generators For Drill Rig
  - Cat Bulldozer
  - Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Water Truck
  - LF-90 Rotary Drill Rig

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening Hairpin Turn for Safety
  - Clearing and Grading for MB-03 Pad
  - An Archaeological Monitor Will Be Present for Clearing Activities Within AR-03-12-02-1517(TNF)

T2S - R12E - SECTION 2    T2S - R12E - SECTION 1

**FR 2440 PROFILE**

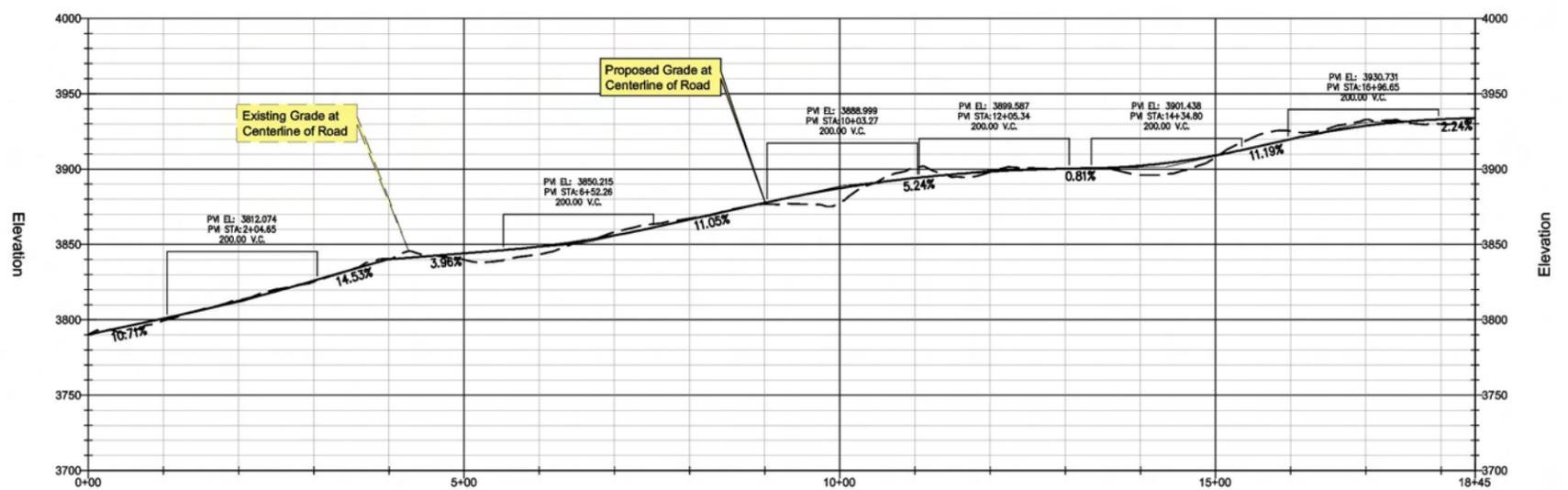
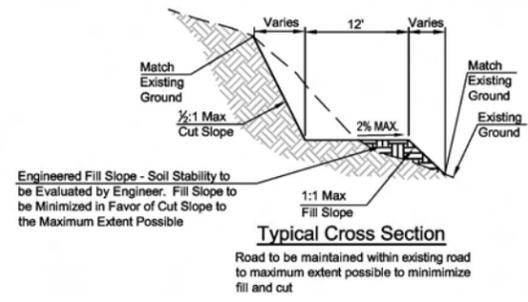


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



**WestLand Resources Inc.**  
 Engineering and Environmental Consultants  
 4001 E. Paradise Falls Drive  
 Tucson, Az 85712 (520) 206-9585

**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 2440 Access Improvements  
 Access To Exploration Site MB-03

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**EXTENSION OF FR 315 PROFILE (OCCURS ON STATE LAND, WORK COMPLETED)**

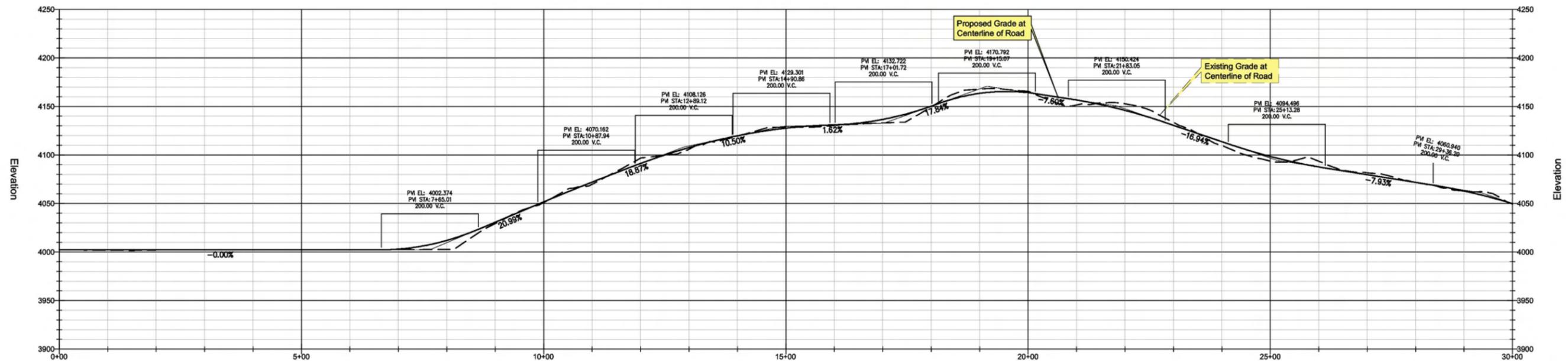


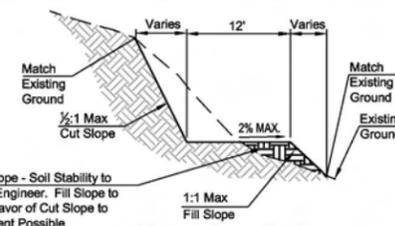
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 Topographical Source: USGS NED Dataset  
 Contour Interval: 10'  
 PVI = Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resources Survey Area -  
Note: 100' Wide or Greater

**Forest Service Road Designations:**

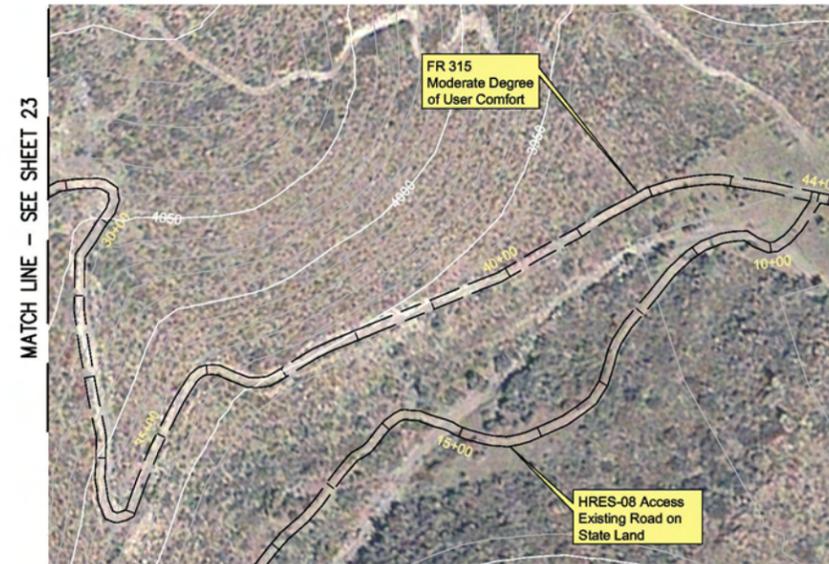
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



Engineered Fill Slope - Soil Stability to be evaluated by Engineer. Fill Slope to be Minimized in Favor of Cut Slope to the Maximum Extent Possible

**Typical Cross Section**

Road to be maintained within existing road to maximum extent possible to minimize fill and cut



T2S - R13E - SECTION 8

**EXTENSION OF FR 315 PROFILE (OCCURS ON STATE LAND, WORK COMPLETED)**

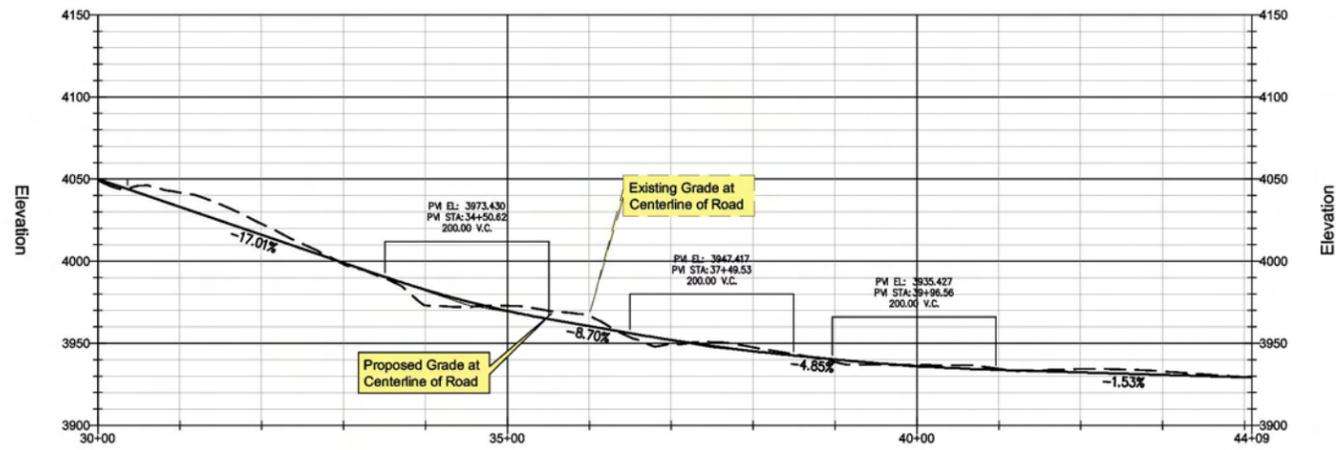


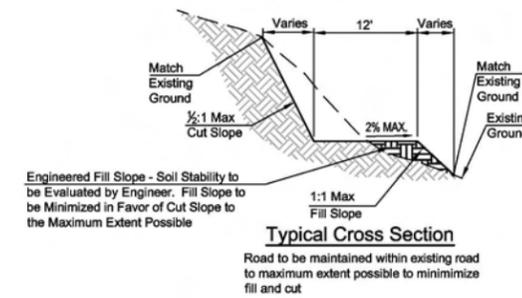
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid  
 Abrupt Transition Between Grades

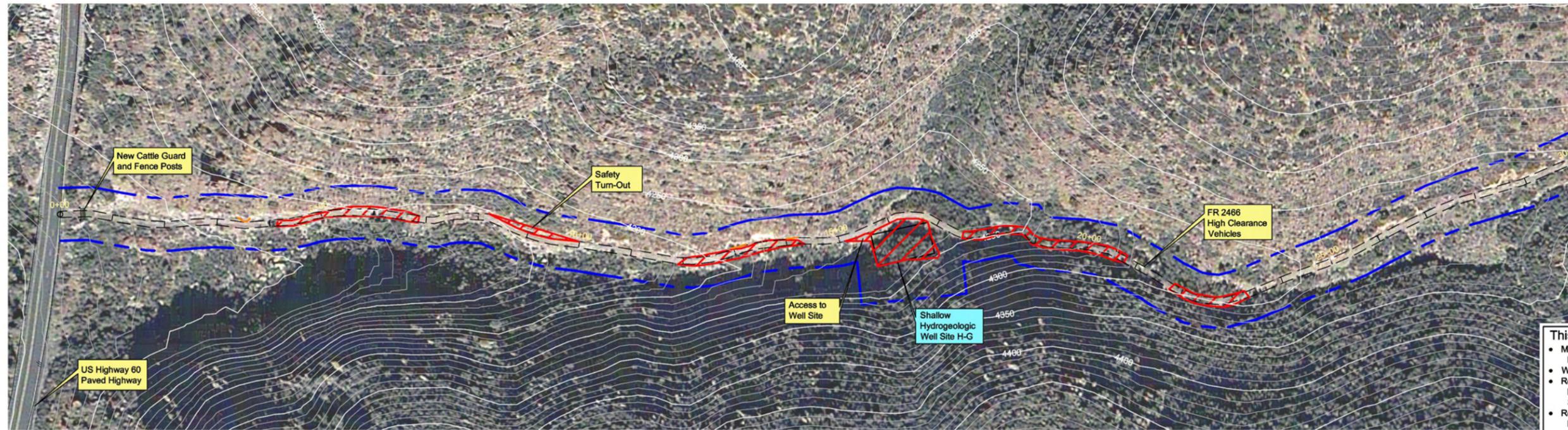
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-5000 Core Drill Rig
  - CP-50 Core Drill Rig
  - Pipe Trucks
  - Mud Tank
  - Heavy Duty Air Compressor
  - Water Storage Tank
  - Generators For Drill Rig
  - Backhoe
  - Water Truck

- This Sheet:**
- Minimal New Surface Disturbance. Grading of Existing Road
  - Widening of Existing Tight Spots with Track Hoe
  - Rock Removed From Excavation of Drill Site H-G Will Be Crushed and Used to Dress Road Surface
  - Relocating Fence Post at Entrance from US Hwy 60
  - Placing Cattleguard at Entrance
  - Arizona Hedgehog Cacti to be Fenced and Protected with Cactus Guards Where Possible
  - A Biological Monitor will be Present During Clearing and Grading Activities

T1S - R13E - SECTION 22

FR 2466 PROFILE

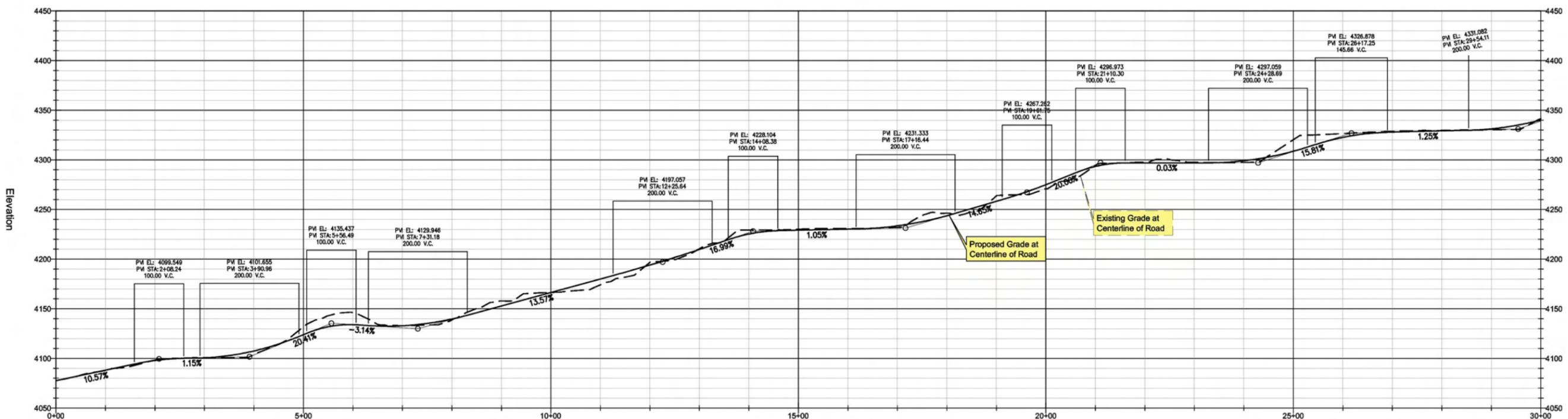


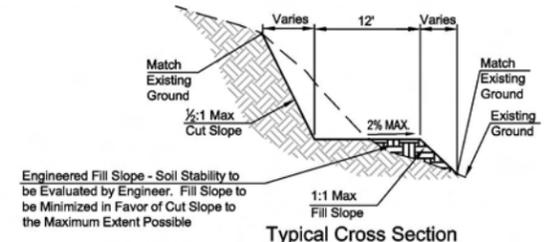
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

**Legend**

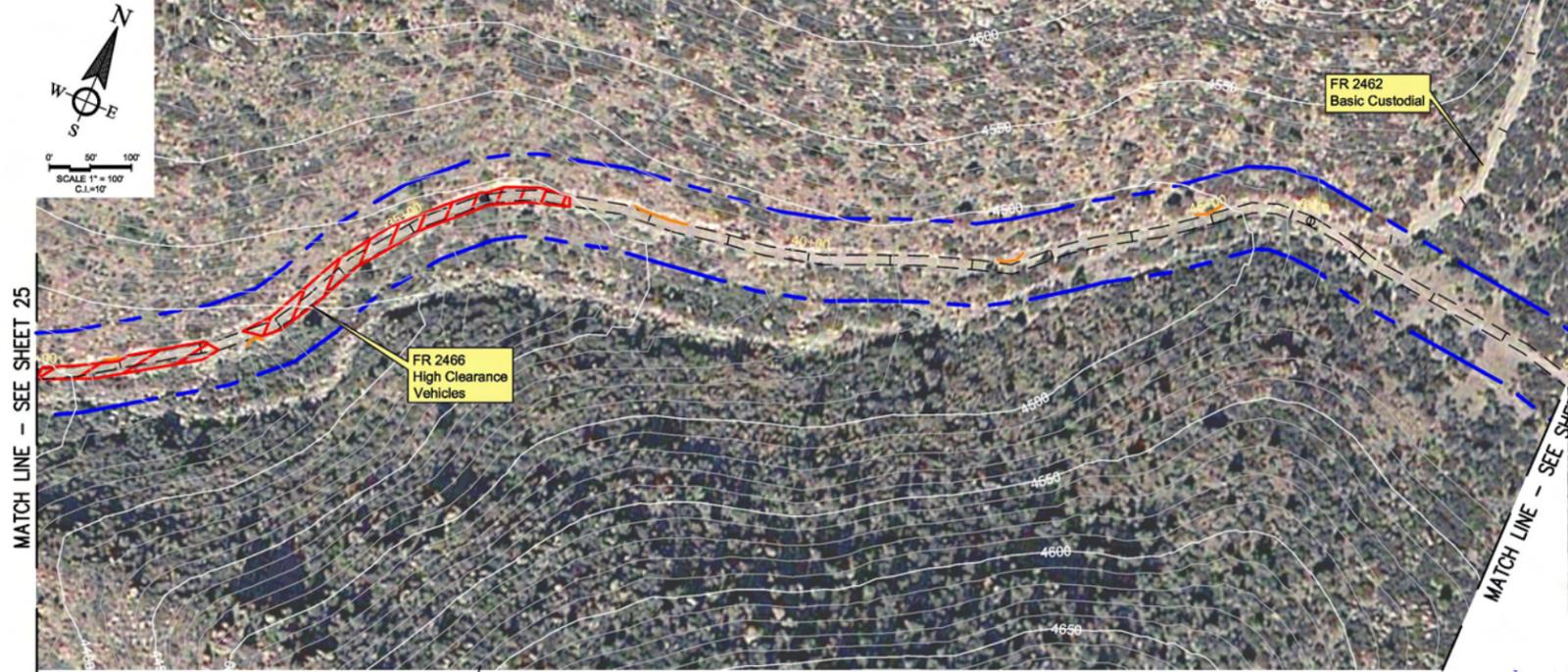
- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
Note: 100' Wide or Greater

**Forest Service Road Designations:**

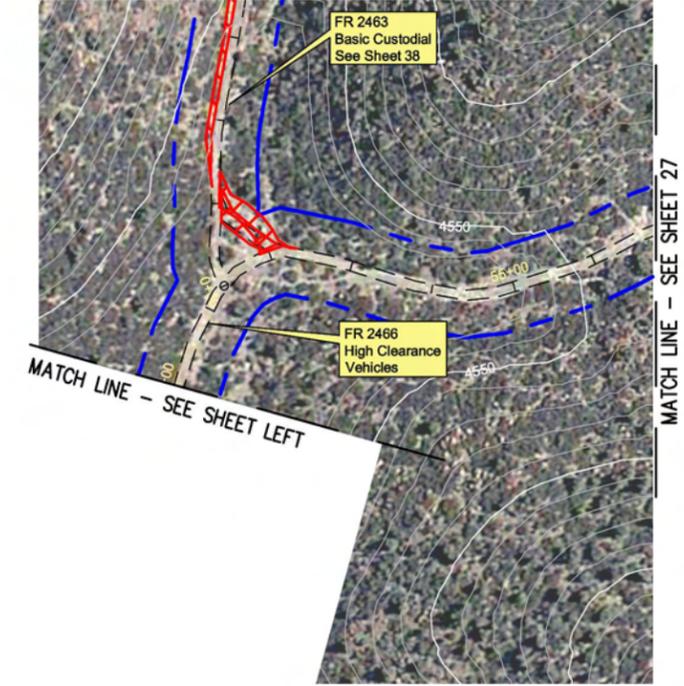
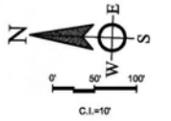
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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T1S - R13E - SECTION 22 / T1S - R13E - SECTION 23



T1S - R13E - SECTION 23

- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-5000 Core Drill Rig
  - CP-50 Core Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Backhoe
  - Water Truck
  - Cat Bulldozer

- This Sheet:**
- Minimal New Surface Disturbance - Grading Existing Road and Widening Tight Areas with Track Hoe
  - Providing New Roadway Segment Connecting FR-2466 and FR 2463
  - Rock Removed From Excavation of H-G Will Be Used to Dress Road Surface
  - Arizona Hedgehog Cacti to be Fenced and Protected with Cactus Guards
  - A Biological Monitor will be Present During Clearing and Grading Activities

**FR 2466 PROFILE**

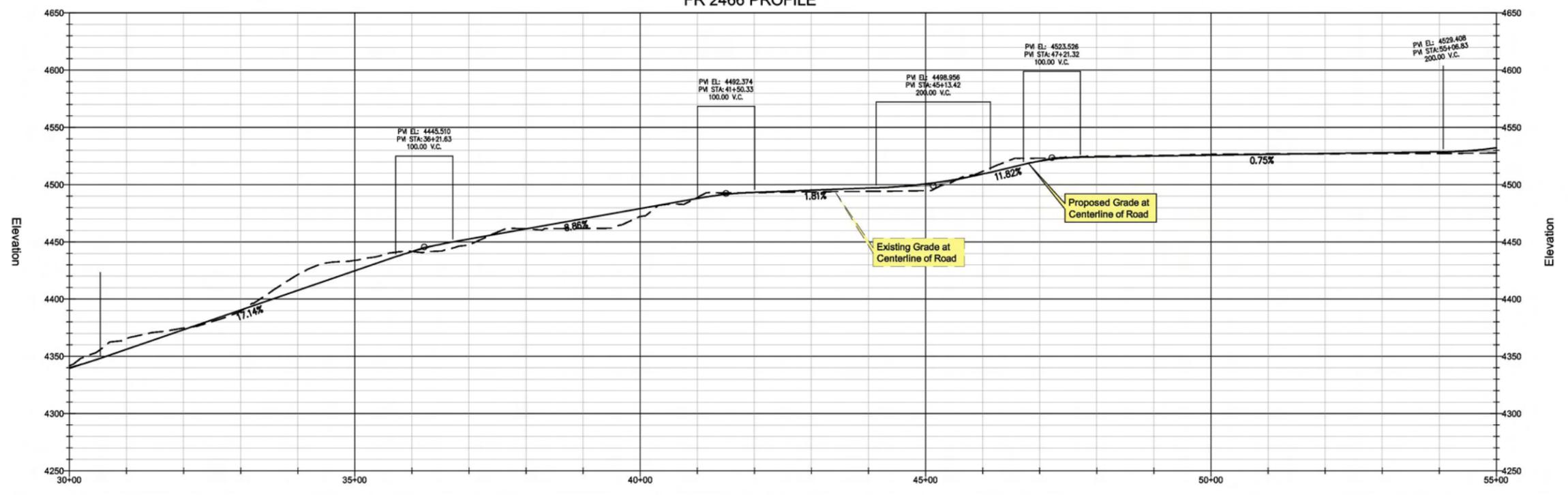
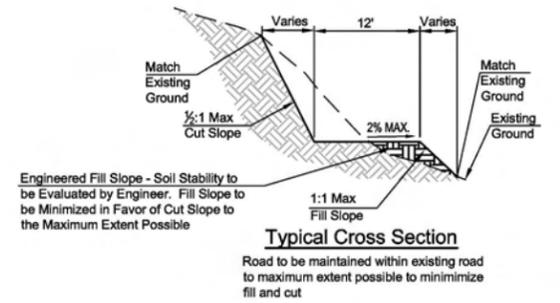
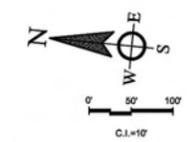


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
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  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-5000 Core Drill Rig
  - CP-50 Core Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Backhoe
  - Water Truck
  - Cat Bulldozer

- This Sheet:**
- Portions of Road Are Rough with No Rocks to Break or Crush
  - Reworking of Roadway Material Required - Possibly Bringing Fill from Upper Portions of Road
  - Clearing and Grading for H-C Pad
  - Arizona Hedgehog Cactus to be Fenced and Protected with Cactus Guards
  - A Biological Monitor will be Present During Clearing and Grading Activities

T1S - R13E - SECTION 23

**FR 2466 PROFILE**

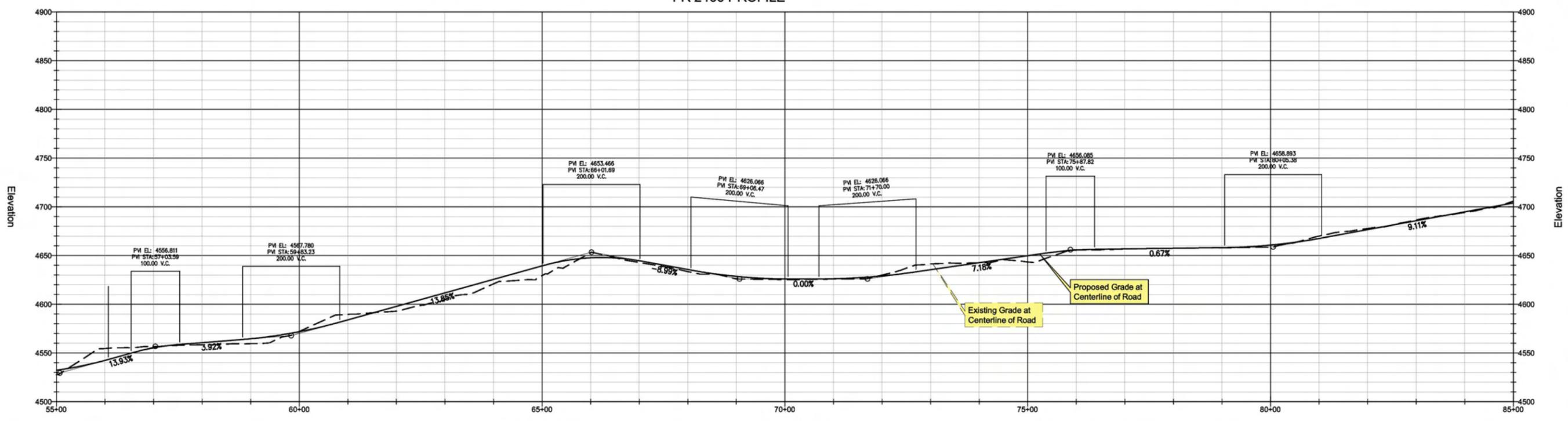
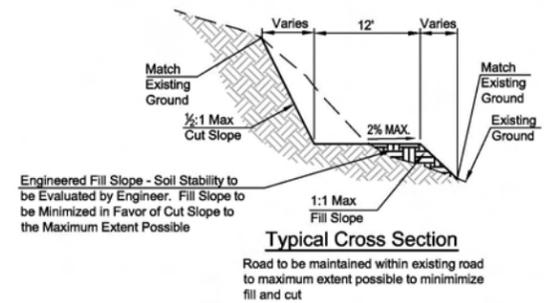


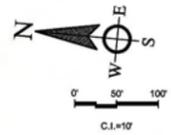
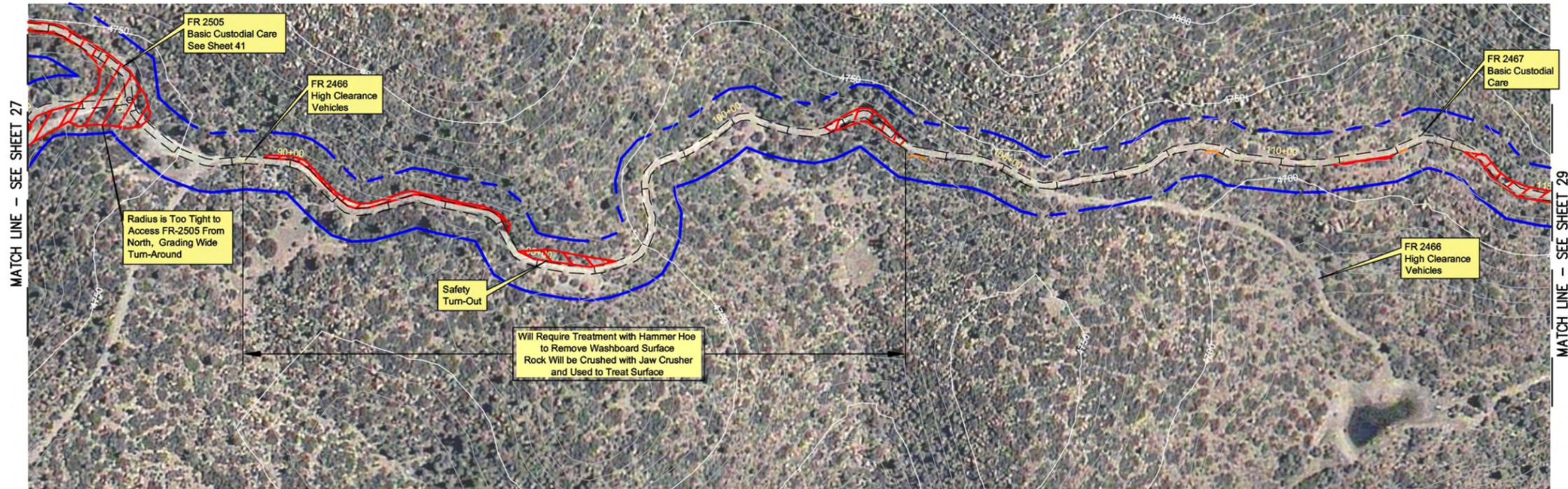
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
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- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-5000 Core Drill Rig
  - CP-50 Core Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Backhoe
  - Water Truck
  - Cat Bulldozer

- This Sheet:**
- Portions of Road Will Need Significant Treatment with Hammer Hoe to Remove Washboard Surface
  - Rock Will Be Crushed with Jaw Crusher and Used to Treat Surface
  - Three-Way Intersection Will Be Widened to Improve Radius for Access to FR 2505
  - Remaining Areas Will Require Little Disturbance
  - Arizona Hedgehog Cacti to be Fenced and Protected with Cactus Guards
  - A Biological Monitor Will Be Present During Clearing and Grading Activities

T1S - R13E - SECTION 23 | T1S - R13E - SECTION 26

**FR 2466 PROFILE**

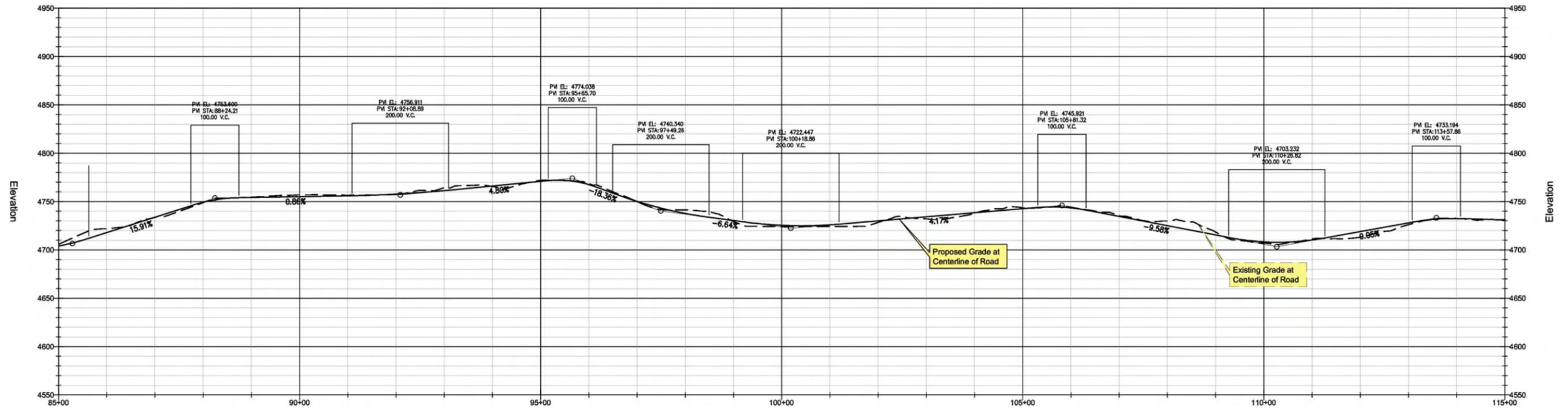
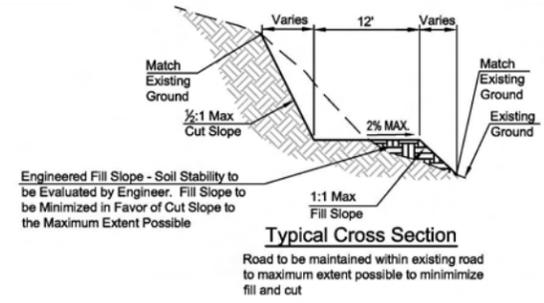


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

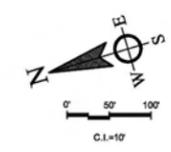
- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
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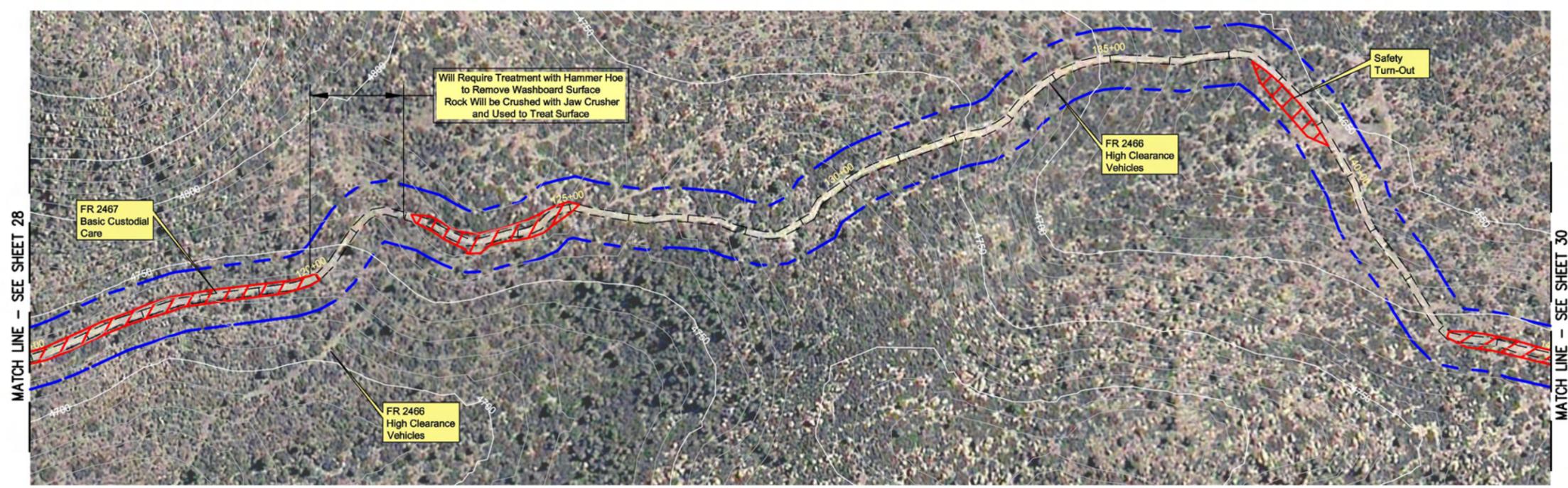
**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 2466 And FR 2467 Improvements

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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead Rotary Drill Rig Or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-5000 Core Drill Rig
  - CP-50 Core Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Backhoe
  - Water Truck
  - Cat Bulldozer

- This Sheet:**
- Area Will Need Significant Treatment with Hammer Hoe Ram to Remove Washboard Surface
  - Rock Will Be Crushed With Jaw Crusher and Used to Treat Surface
  - Remaining Area Will Require Little Disturbance



FR 2467 and FR 2466 PROFILE

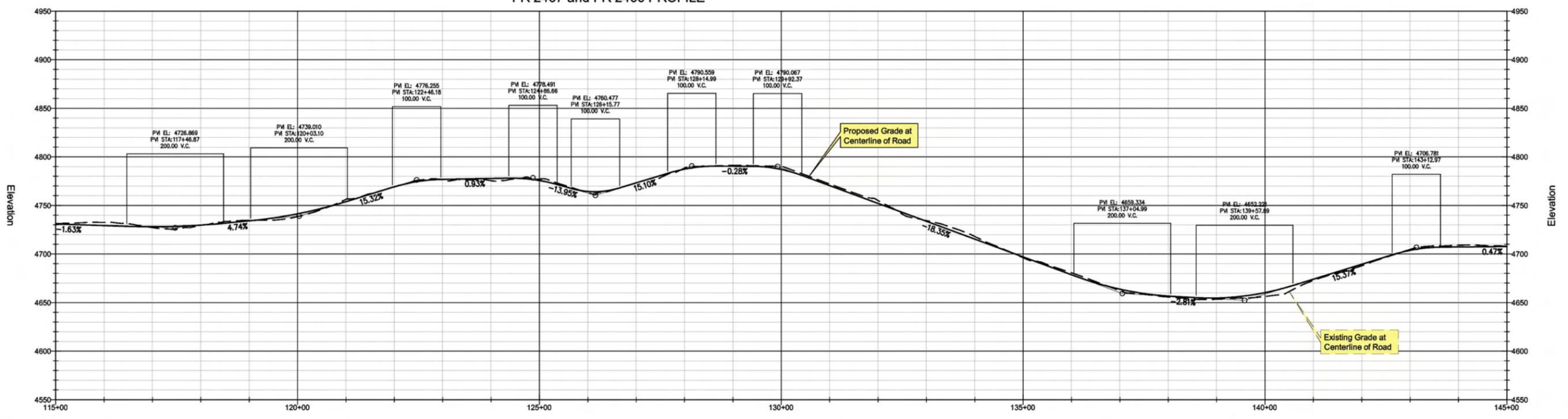
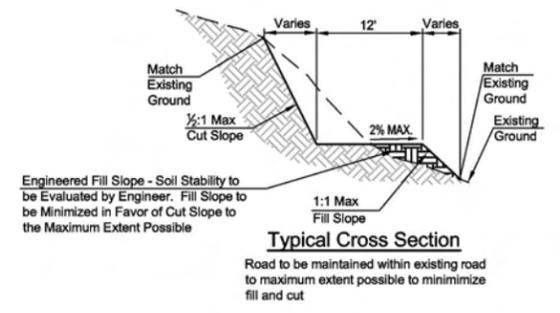
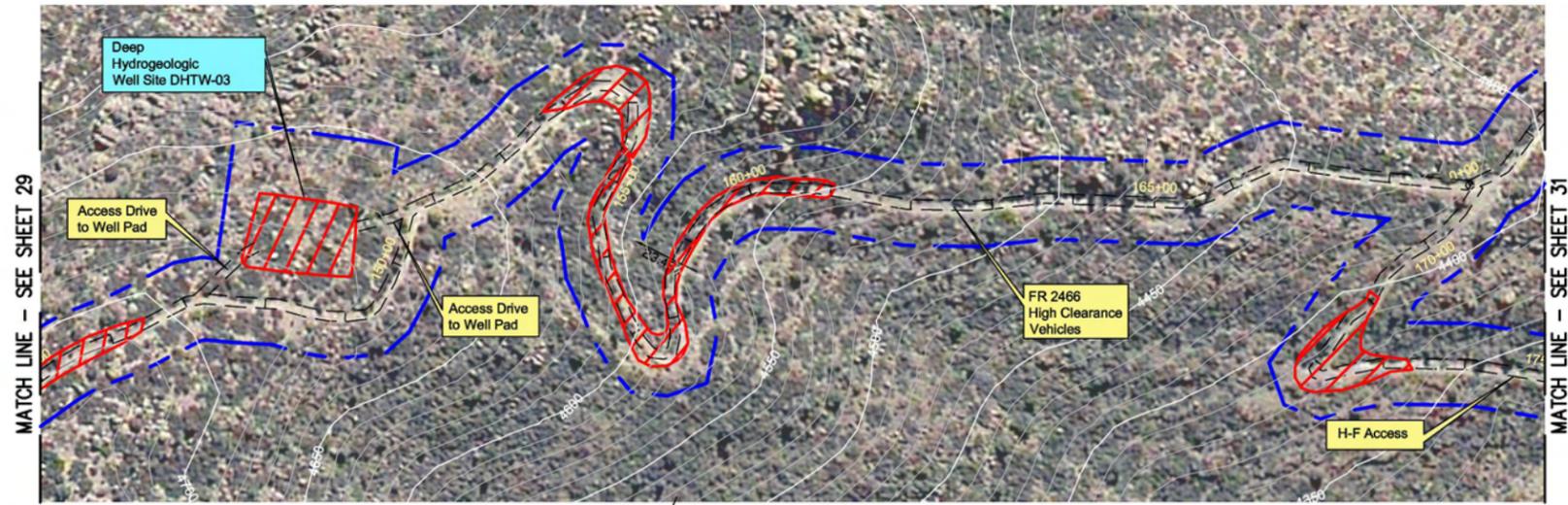


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Water Truck
  - Tracked Jaw Crusher
  - UDR-5000 Core Drill Rig
  - CP-50 Core Drill Rig
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Mud Tank
  - Water Storage Tank
  - Generators For Drill Rigs
  - Cat Bulldozer

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Clearing and Grading for DHTW-03 Pad
  - Boulders Removed for Drill Pad Placement Will Be Replaced Upon Completion of Activities
  - Rock Removed From Excavation of Drill Site DHTW-03 Will Be Crushed and Used to Dress Road Surface

FR 2466 and H-F ACCESS PROFILE

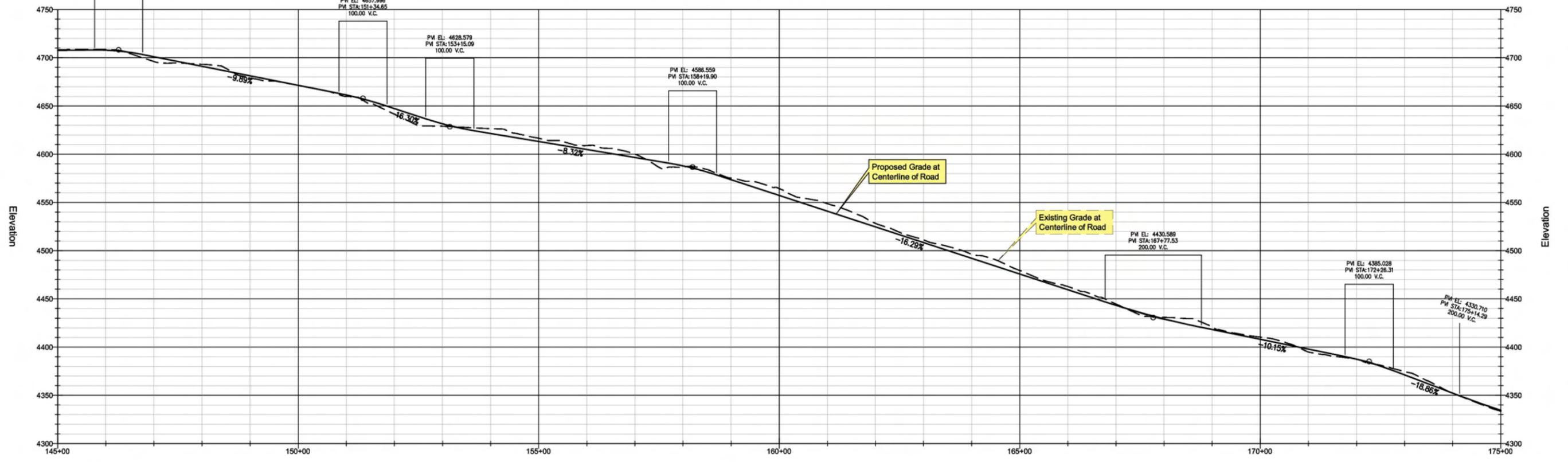
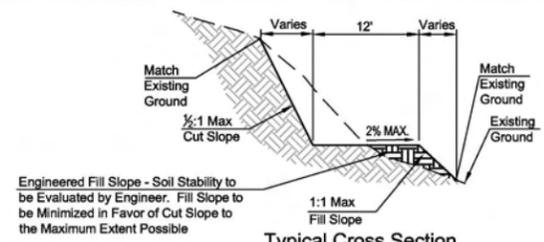


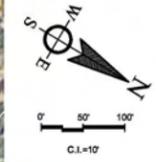
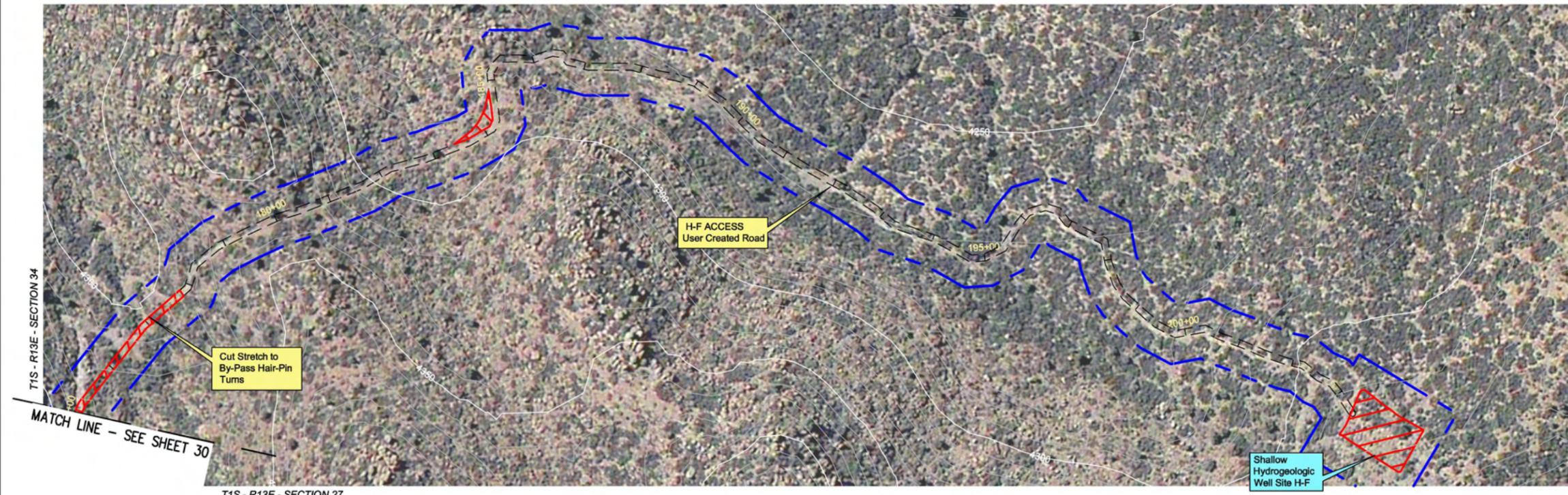
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
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  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Water Truck
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig Or Equivalent
  - Mud Tank
  - Heavy Duty Air Compressor
  - Pipe Trucks
  - Water Storage Tank
  - Generators For Drill Rig
  - Backhoe

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Rock Removed From Excavation of Drill Site DHTW-03 Will Be Crushed and Used to Dress Road Surface
  - Stretch of Road will be Cut to By-Pass Hair-Pin Turns
  - Clearing and Grading for H-F Pad

H-F ACCESS PROFILE

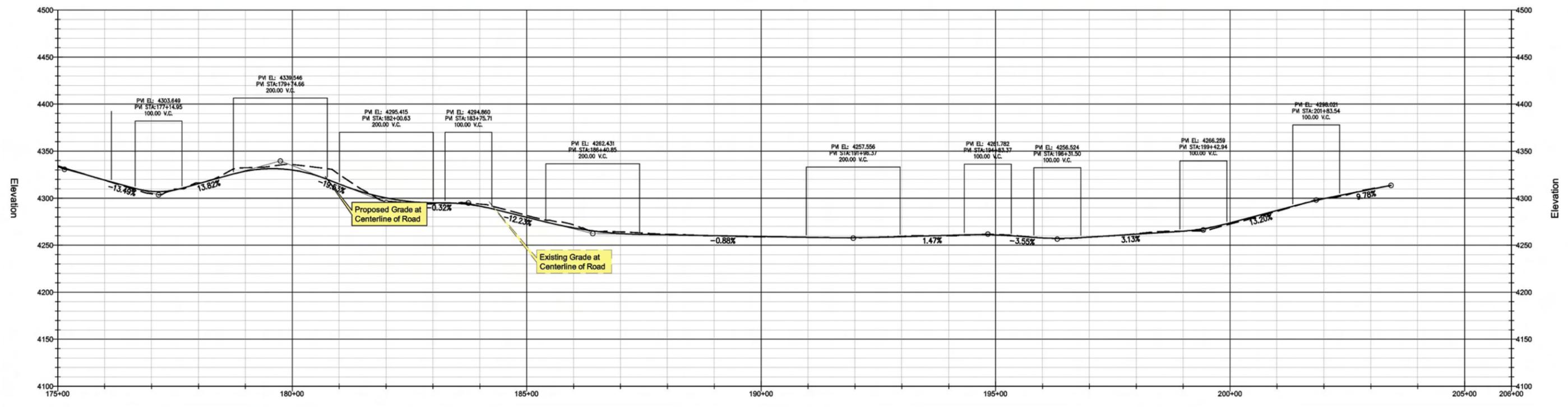
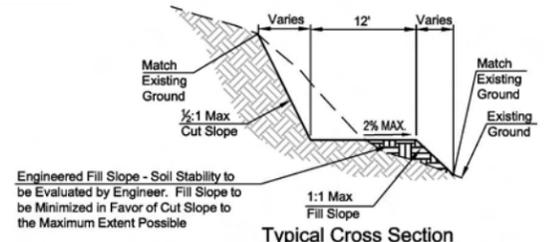


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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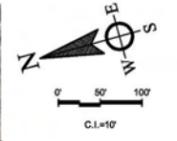
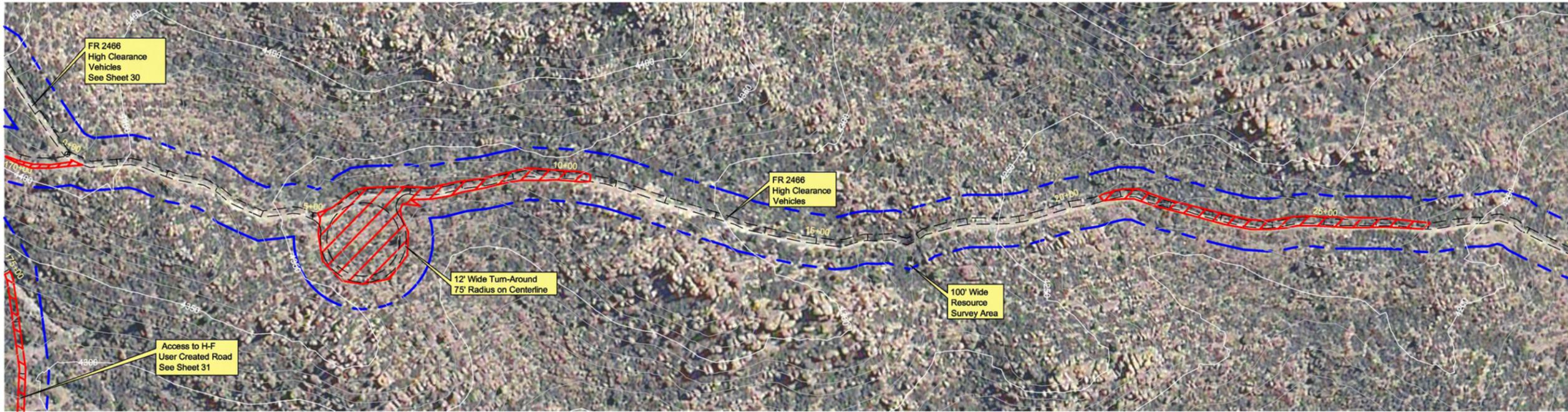
- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



**WestLand Resources Inc.**  
 Engineering and Environmental Consultants  
 4001 E. Paradise Falls Drive  
 Tucson, Az 85712 (520) 206-9585

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- Equipment List**
- Lang LM-140 Series Tophead Rotary Drill Rig Or Equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Track Hoe

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Creating 12' Wide Turnaround

MATCH LINE - SEE SHEET 33

T1S - R13E - SECTION 34

**FR 2466 PROFILE**

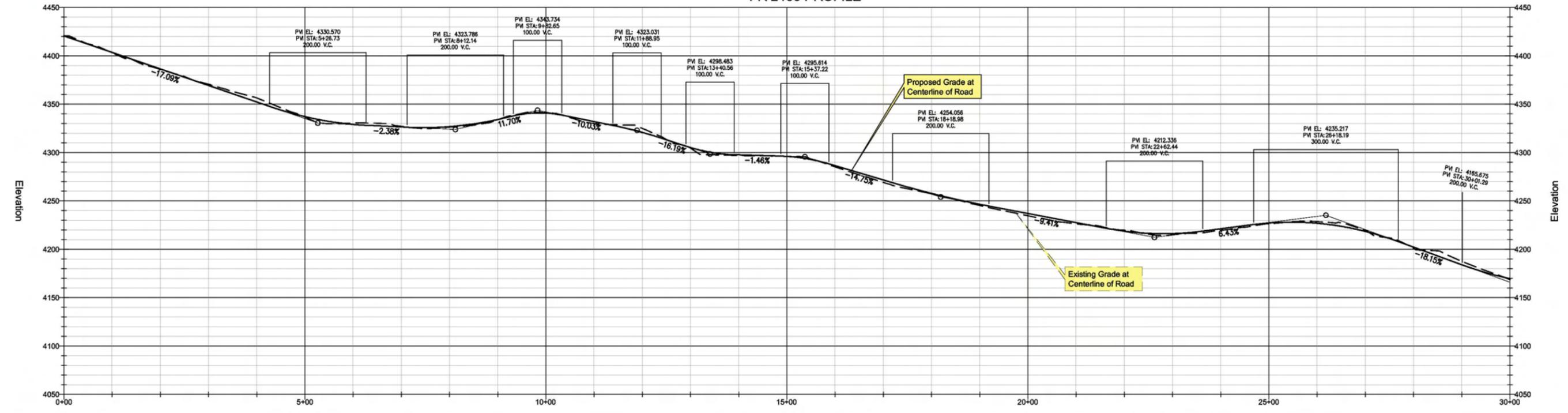


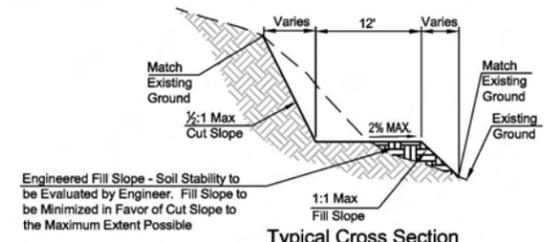
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area - Note: 100' Wide or Greater

**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



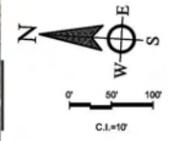
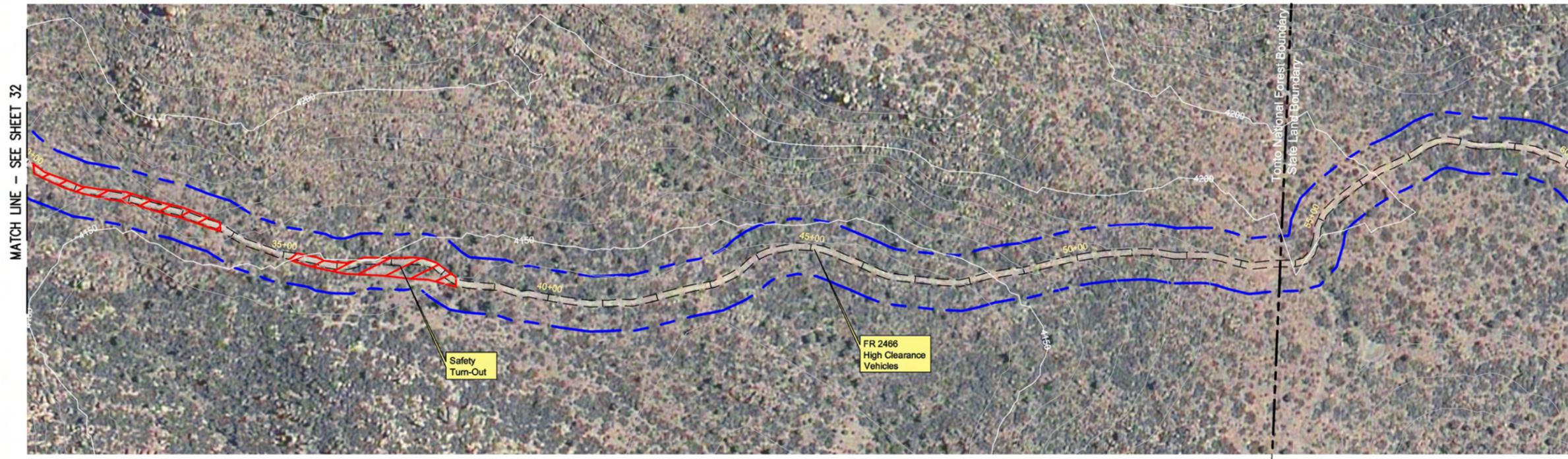
**Typical Cross Section**

Road to be maintained within existing road to maximum extent possible to minimize fill and cut

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**WestLand Resources Inc.**  
 Engineering and Environmental Consultants  
 4001 E. Paradise Falls Drive  
 Tucson, AZ 85712 (520) 206-9585

**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 2466 Improvements



- Equipment List**
- Lang LM-140 Series Tophead Rotary Drill Rig or Equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Track Hoe

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Safety Turnout

T1S - R13E - SECTION 34 | T2S - R13E - SECTION 4

**FR 2466 PROFILE**

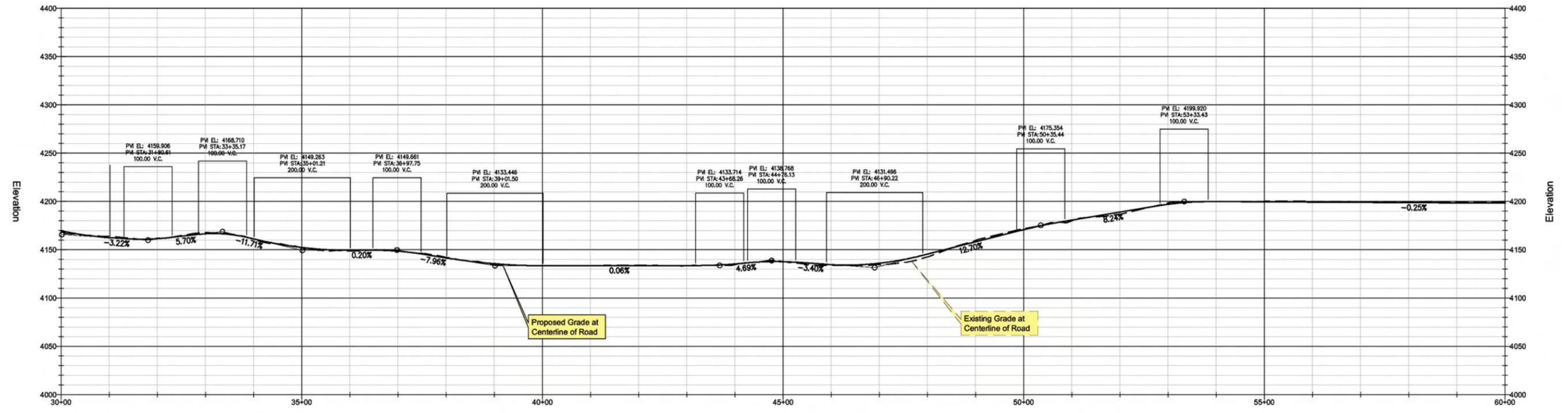
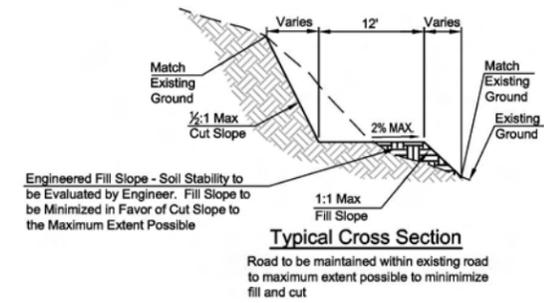


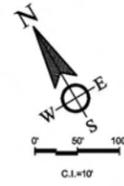
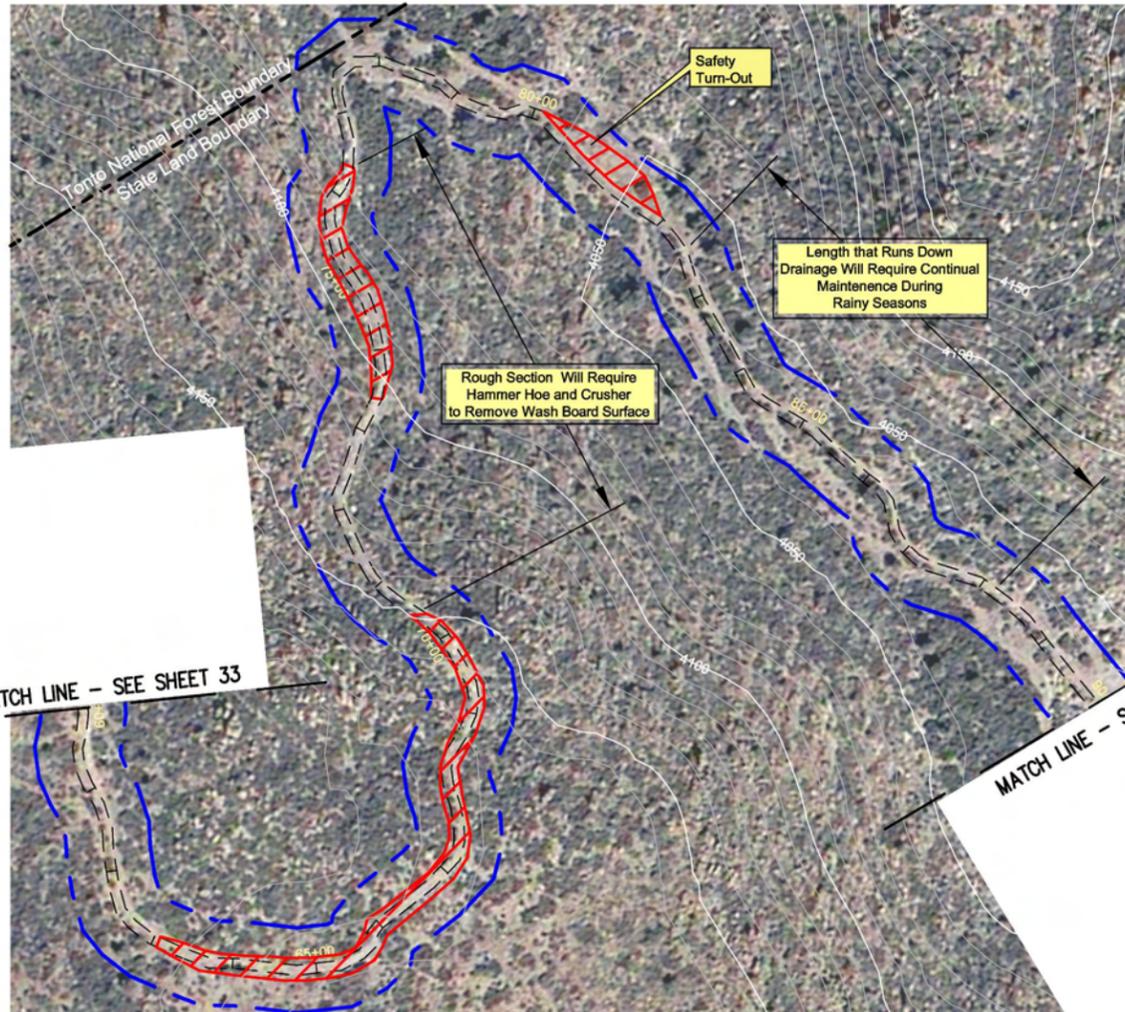
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Lang LM-140 series Tophead Rotary Drill Rig or equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Hammer Hoe
  - Track Hoe

- This Sheet:**
- Rough Section - Will Require Hammer Hoe and Crusher to Remove Wash Board Length that Runs Down Drainage
  - Will Require Continual Maintenance During Rainy Seasons
  - Providing Safety Turn-out

EXTENSION FR 2466 PROFILE (OCCURS ON STATE LAND)

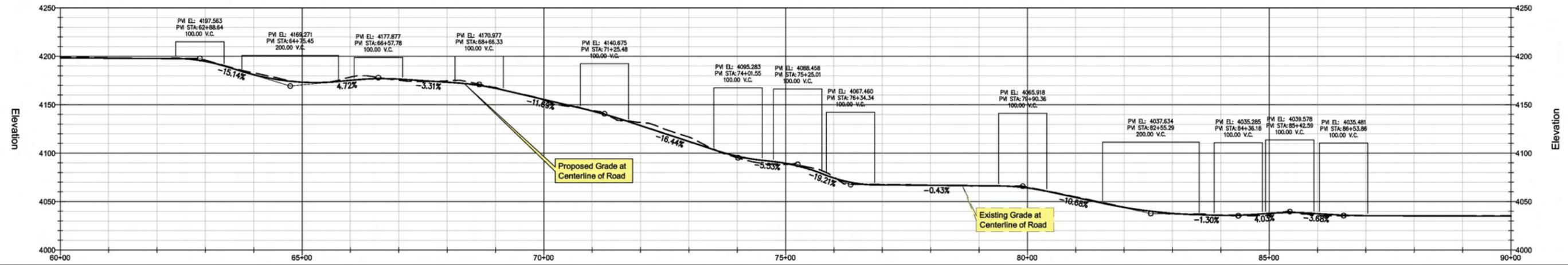
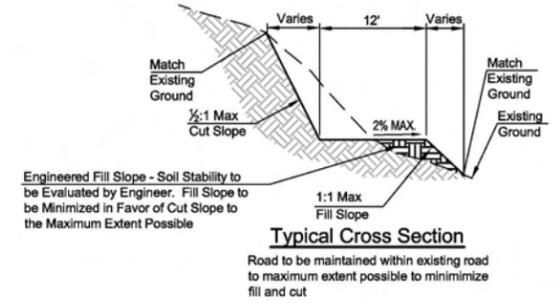
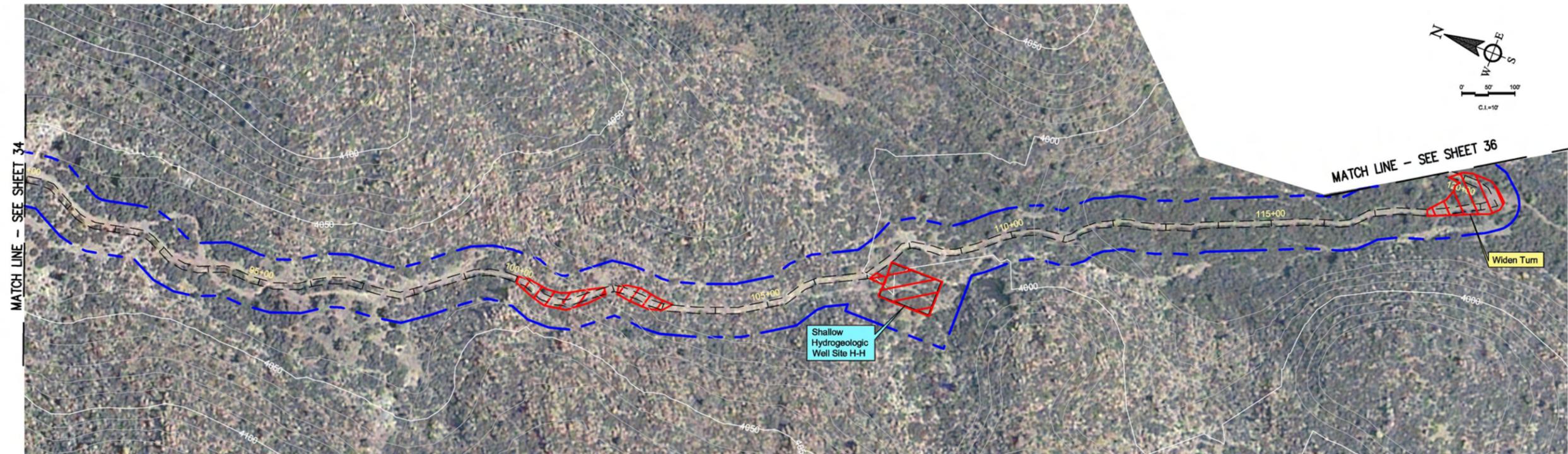


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Lang LM-140 series Tophead
  - Rotary Drill Rig or equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Track Hoe

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Clearing and Grading for Placement of H-H on State Land

T2S - R13E - SECTION 4

EXTENSION OF FR 2466 PROFILE (OCCURS ON STATE LAND)

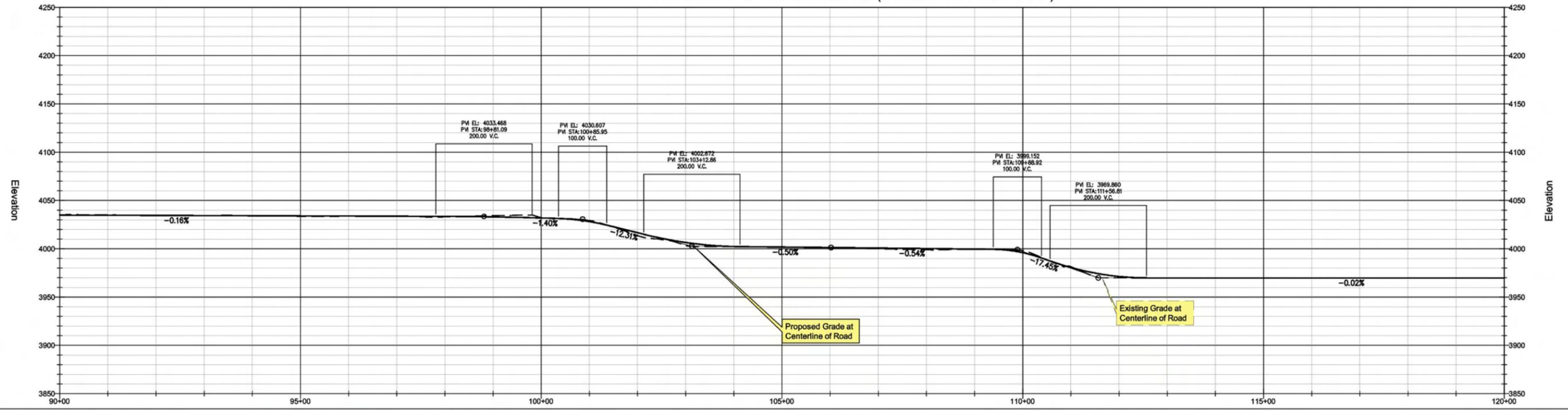
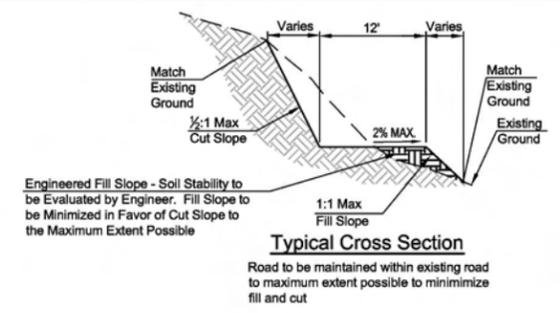
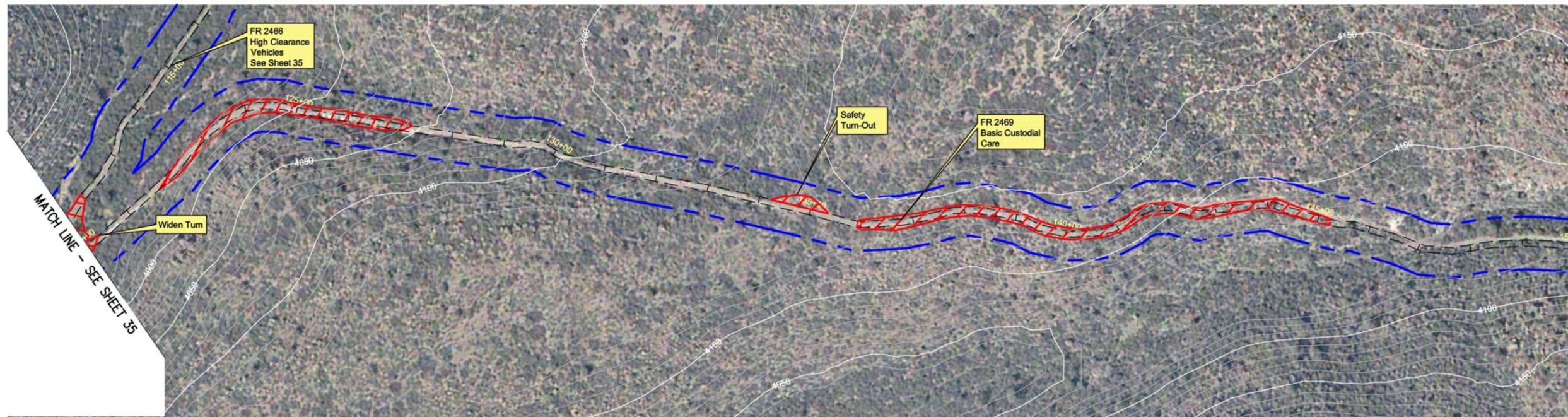


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Lang LM-140 series Tophead Rotary Drill Rig or equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Track Hoe

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Providing Safety Turn-out

T2S - R13E - SECTION 4 / T2S - R13E - SECTION 3

**EXTENSION OF FR 2469 PROFILE (ON STATE LAND)**

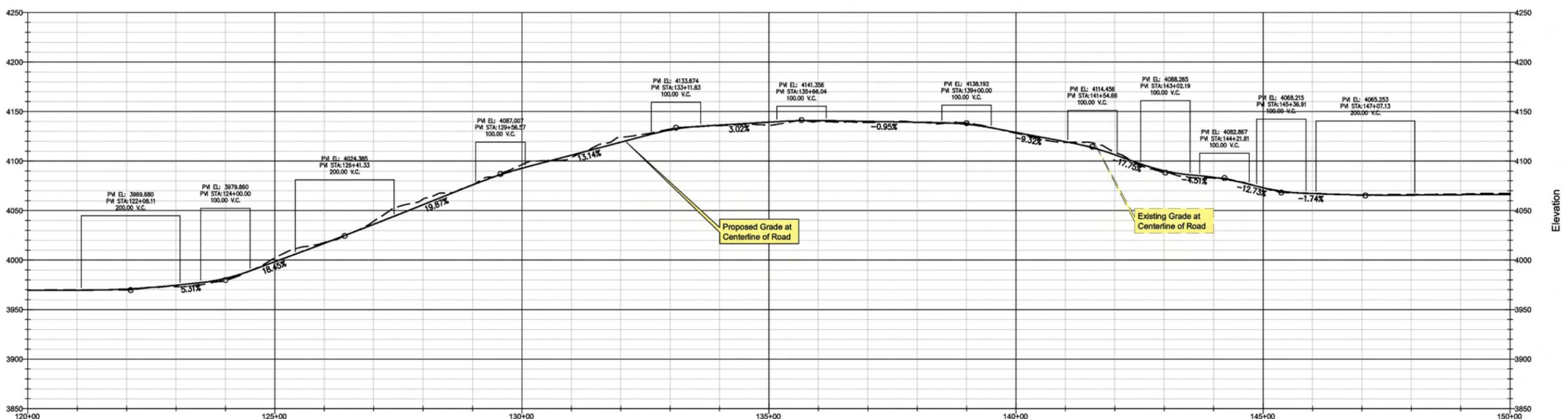
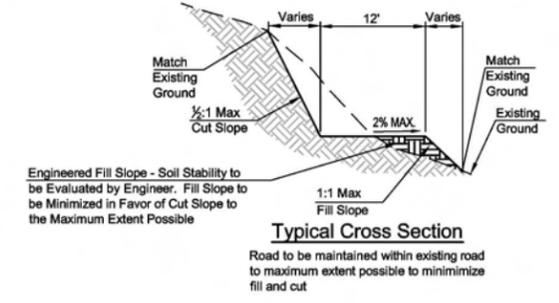
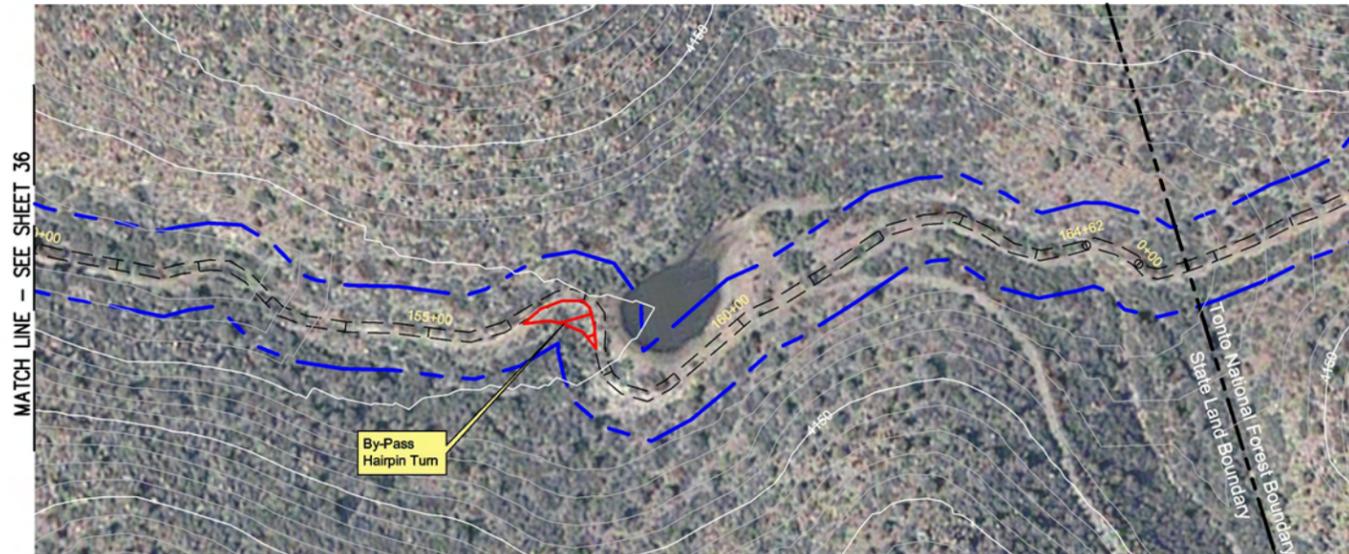


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





T2S - R13E - SECTION 3 T1S - R13E - SECTION 35

**Equipment List**

- Lang LM-140 series Tophead Rotary Drill Rig or equivalent
- Mud Tank
- Heavy Duty Air Compressor
- Pipe Trucks
- Water Storage Tank
- Generators for Drill Rig
- Front End Loader
- Backhoe
- Tracked Jaw Crusher
- Water Truck
- Track Hoe

**This Sheet:**

- Minimal New Surface
- Disturbance - Grading of Existing Road
- Adding Bypass to Hairpin Turn

**EXTENSION OF FR 2469 PROFILE (ON STATE LAND)**

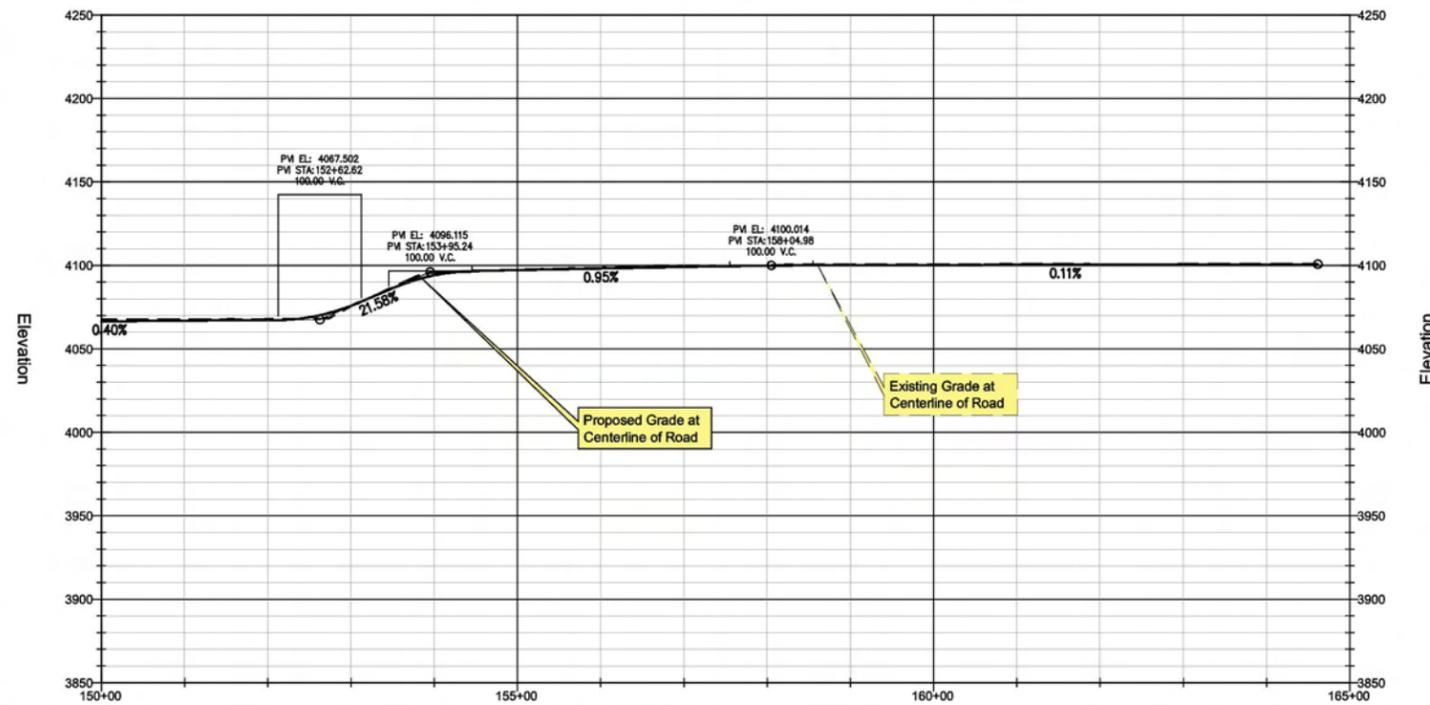


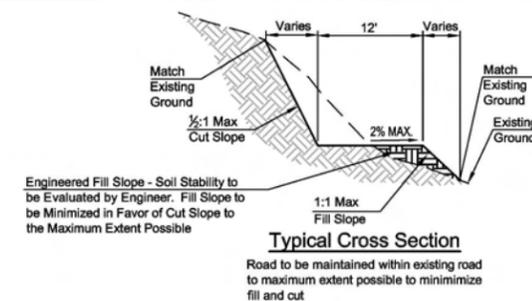
Image Source: Digit. Globe QuickBird Dataset  
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 Contour Interval: 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

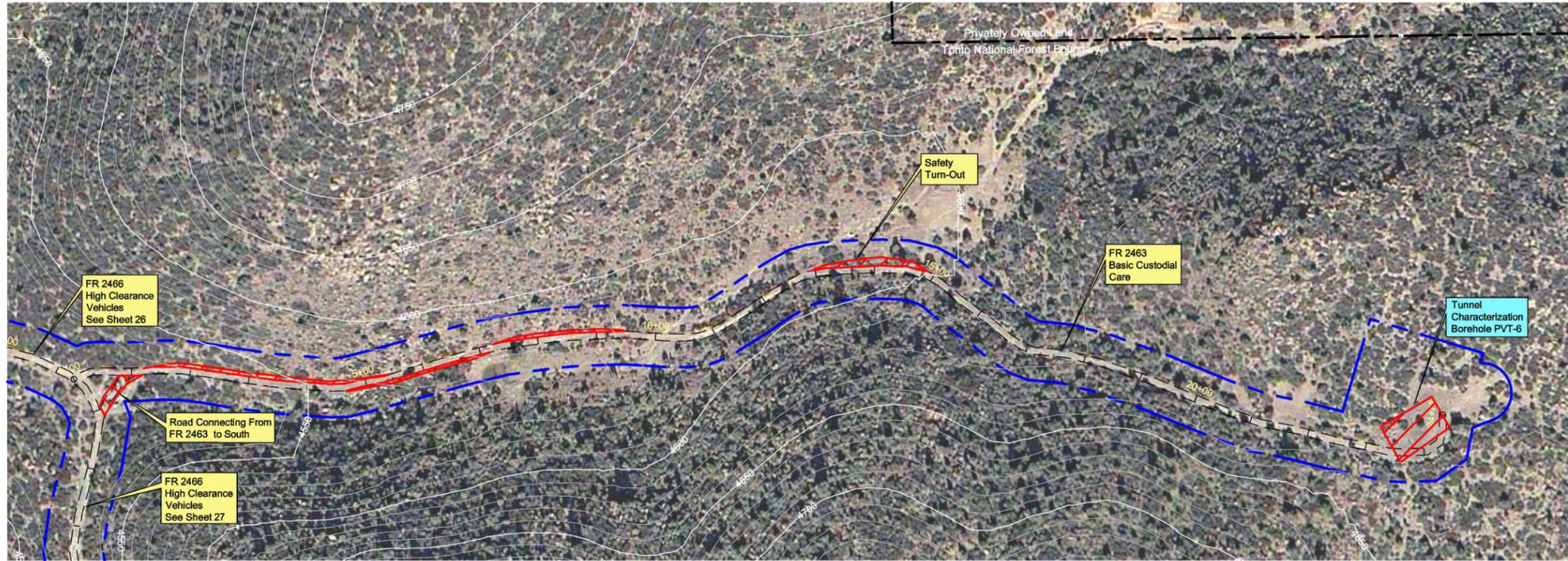
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area - Note: 100' Wide or Greater

**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





T1S - R13E - SECTION 23

- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front end Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Mud Tank
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rig
  - Cat Bulldozer

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Providing Safety Turn-out
  - Adding Segment to Connect FR 2463 to FR 2466 South
  - Clearing and Grading for PVT-6 Pad
  - Arizona Hedgehog Cacti Will Be Avoided
  - A Biological Monitor Will Be Present During Clearing and Grading Activities

**FR 2463 PROFILE**

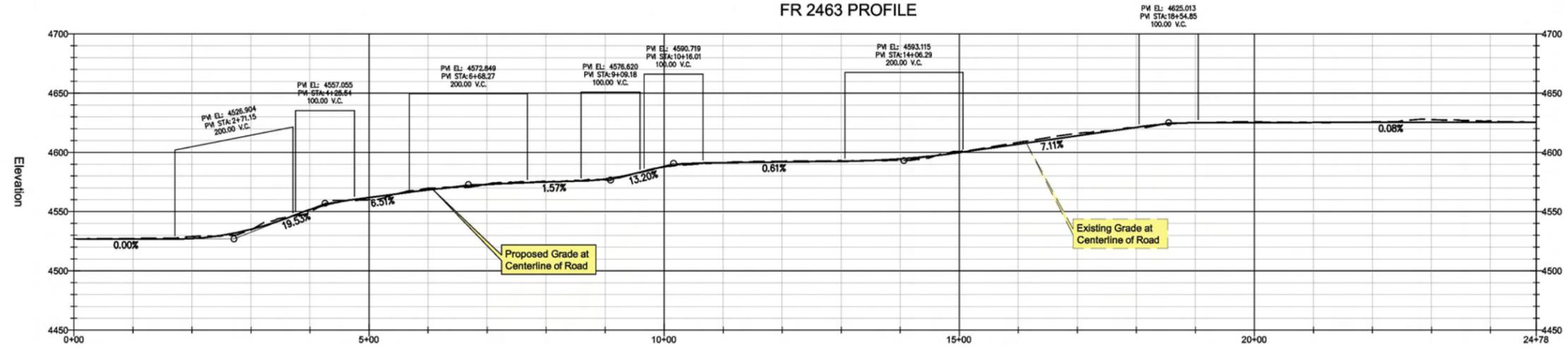
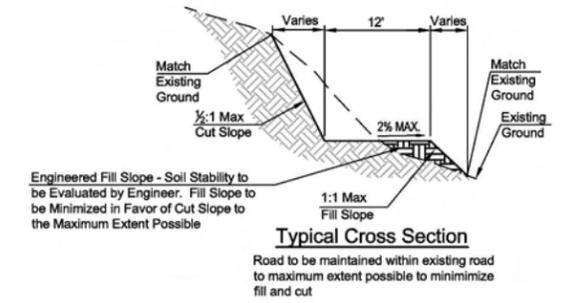


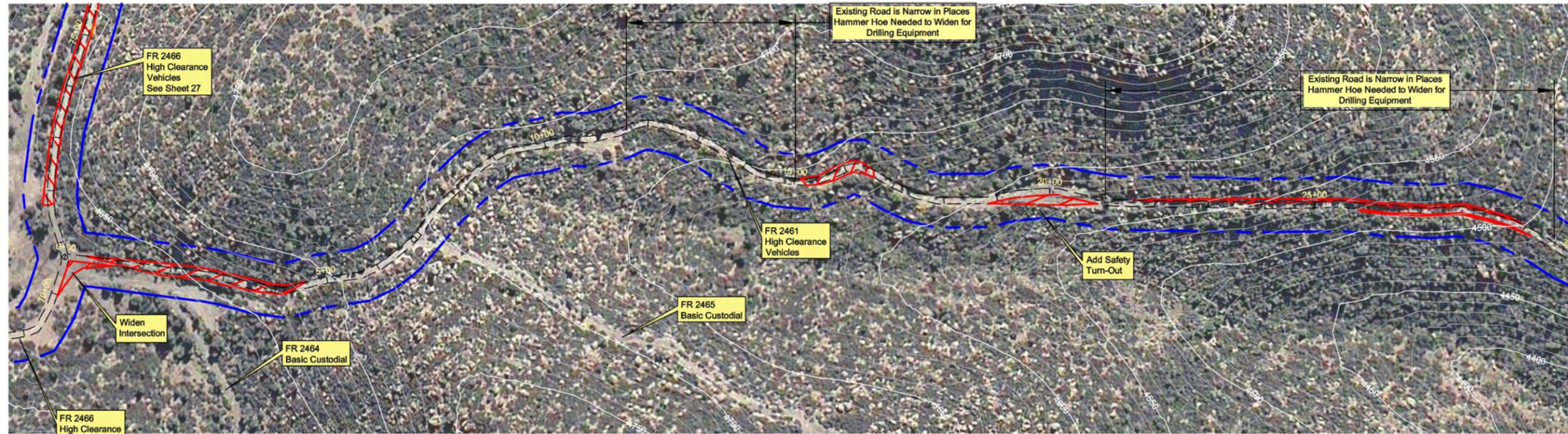
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Water Truck
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Cat Bulldozer
  - Water Truck

- This Sheet:**
- Existing Road is Narrow in Places - Using Hammer Hoe to Widen for Equipment Access
  - Widening Intersection of FR 2461 and FR 2466 South
  - Arizona Hedgehog Cacti Will Be Avoided
  - A Biological Monitor Will Be Present During Clearing and Grading Activities Adjacent to Hedgehog Cacti

T1S - R13E - SECTION 23 / T1S - R13E - SECTION 22

**FR 2461 PROFILE**

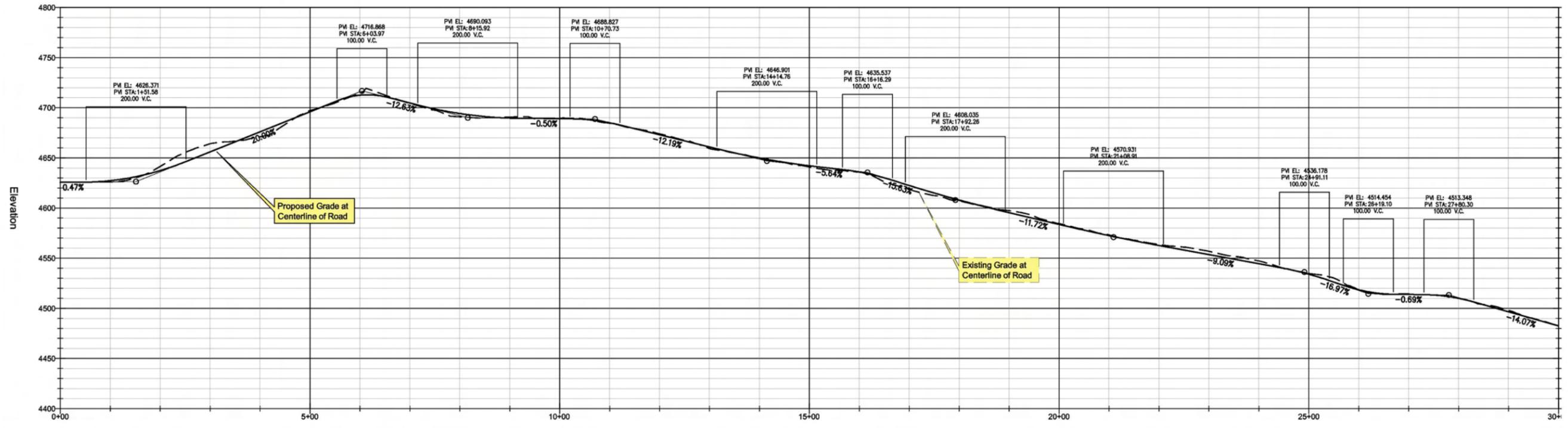
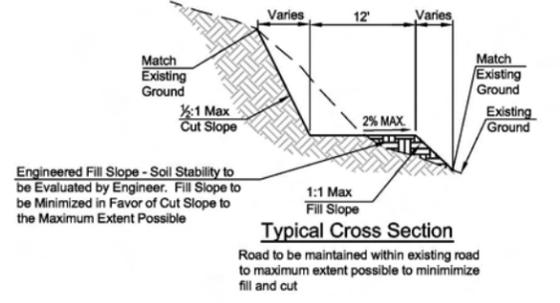
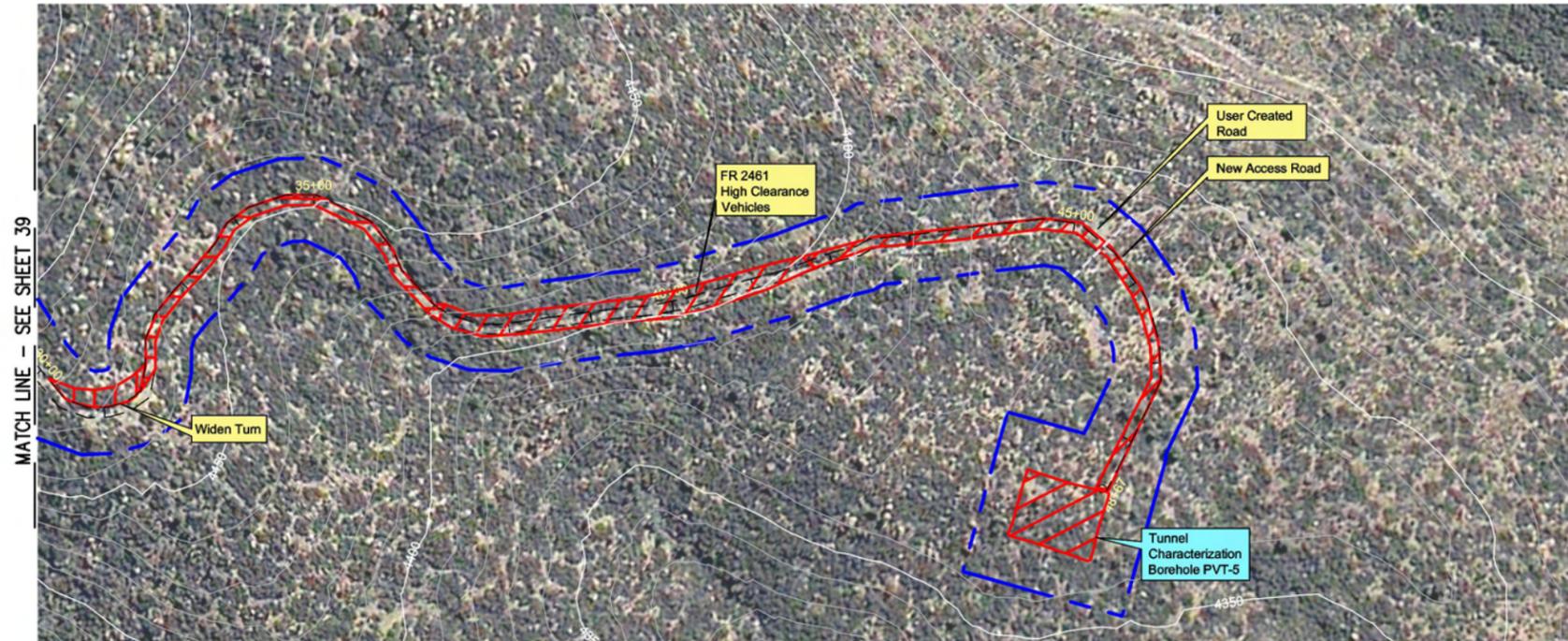


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- ### Equipment List
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Water Truck
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Mud Tank
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rig
  - Cat Bulldozer
  - Water Truck

- ### This Sheet:
- This Section Takes Advantage of an Existing Road
  - Some Segments of Roadway Improvement May Require an Extra 3 Feet or More Cut for Required Width and Stability
  - Clearing and Grading for PVT-5 Pad

### PVT-5 ACCESS PROFILE

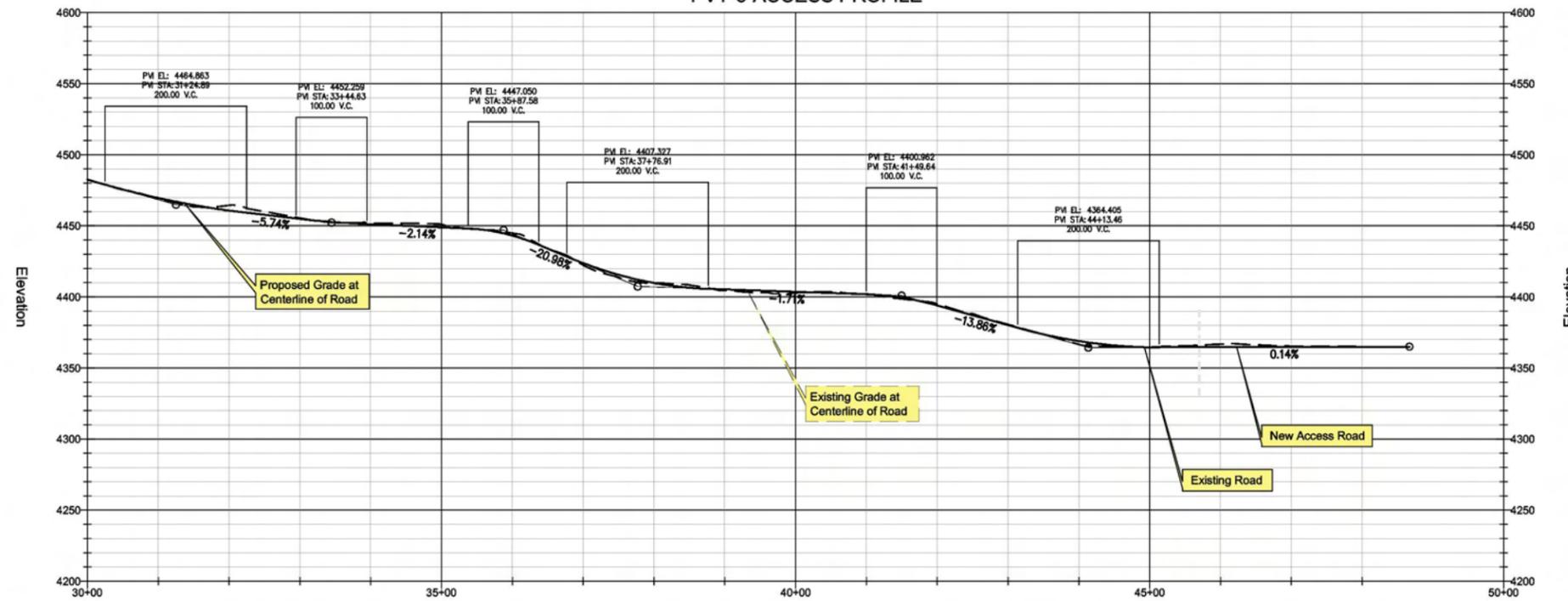


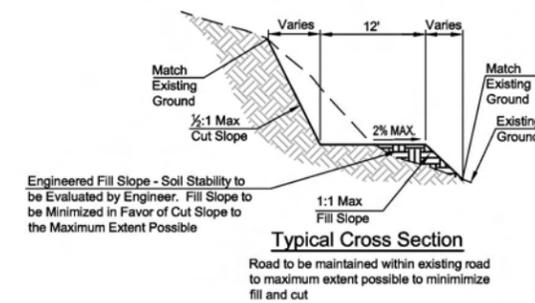
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

### Legend

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area - Note: 100' Wide or Greater

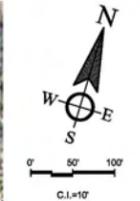
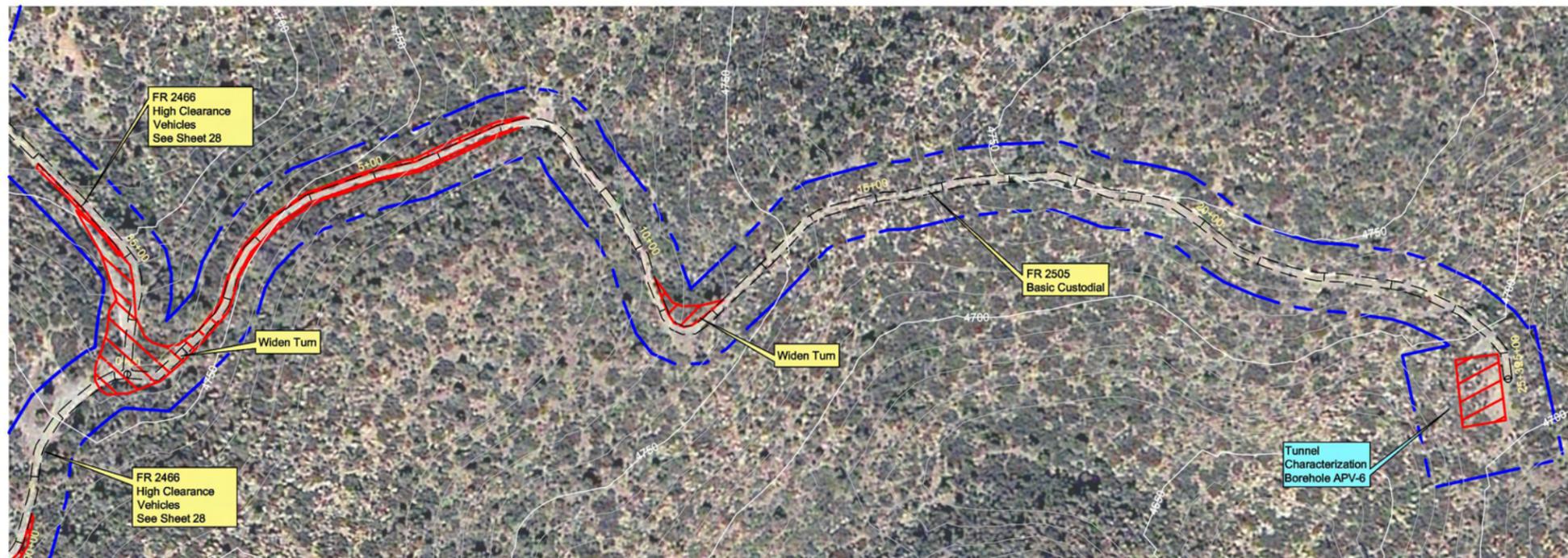
### Forest Service Road Designations:

- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



RESOLUTION COPPER MINING, LLC

Resolution Pre-Feasibility Activities  
 New Access Road Segment  
 Access To PVT-5



- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Mud Tank
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rig
  - Cat Bulldozer
  - Water Truck

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Enlarging Junction of FR 2505 and FR 2466 to Prevent Hairpin Turn
  - Clearing and Grading for APV-6 Pad

T1S - R13E - SECTION 26      T1S - R13E - SECTION 23

**FR 2505 PROFILE**

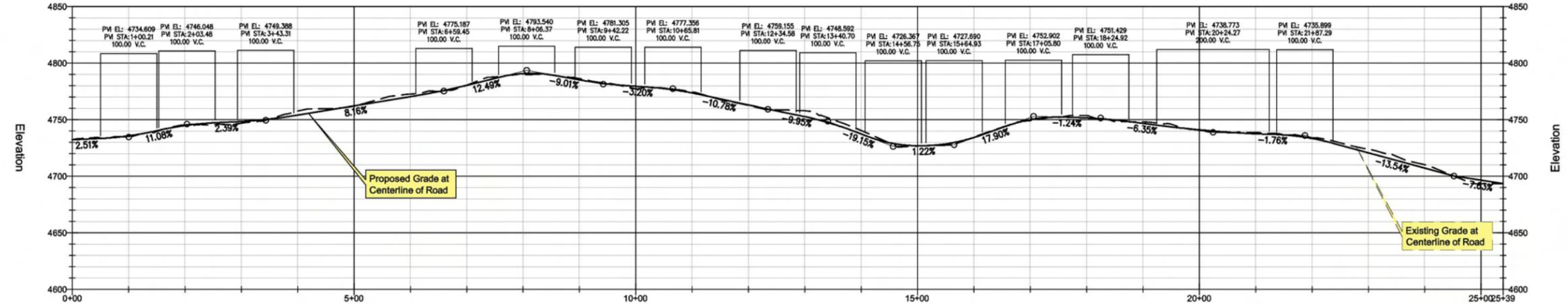
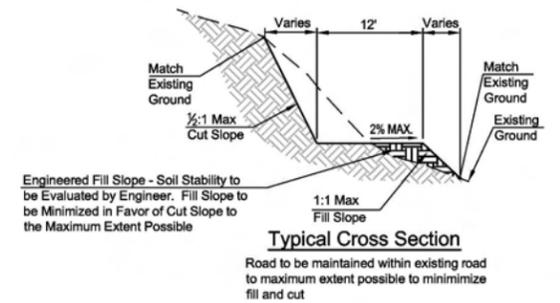


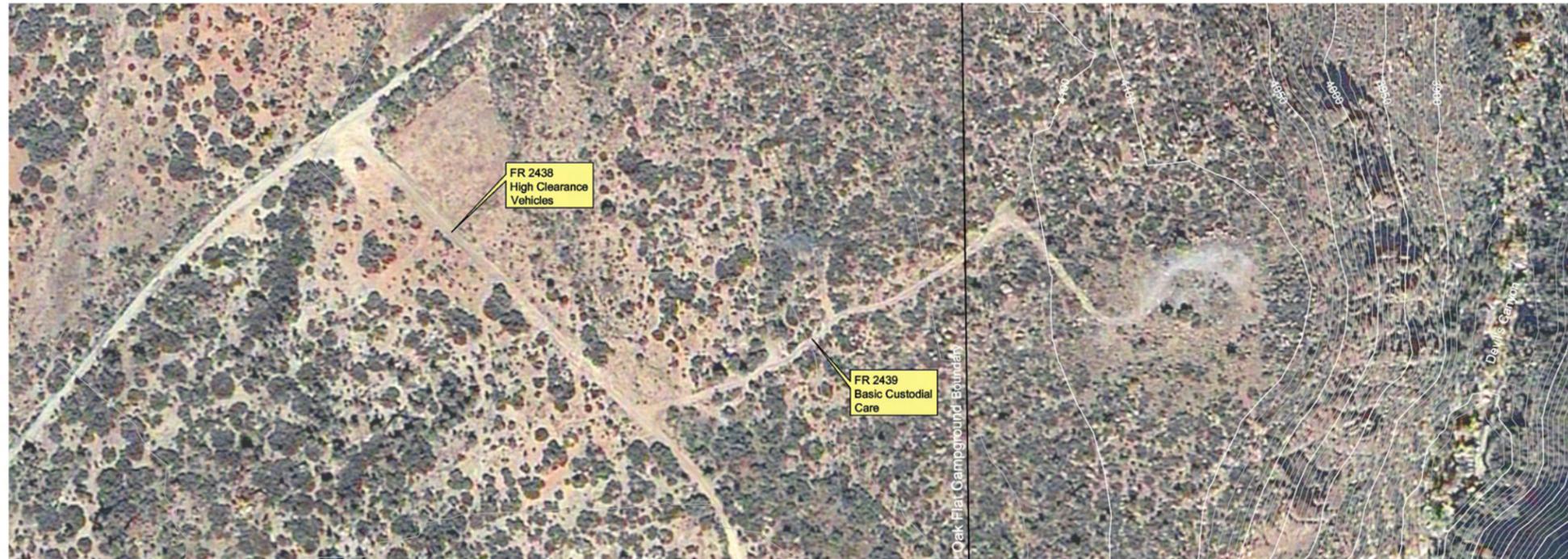
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1-Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2-High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3-Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4-Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5-High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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T1S - R13E - SECTION 26      T1S - R13E - SECTION 27

Note: Deep hydrogeological monitoring well DHTW-01 was relocated (see sheet 52).

### FR 2439 PROFILE

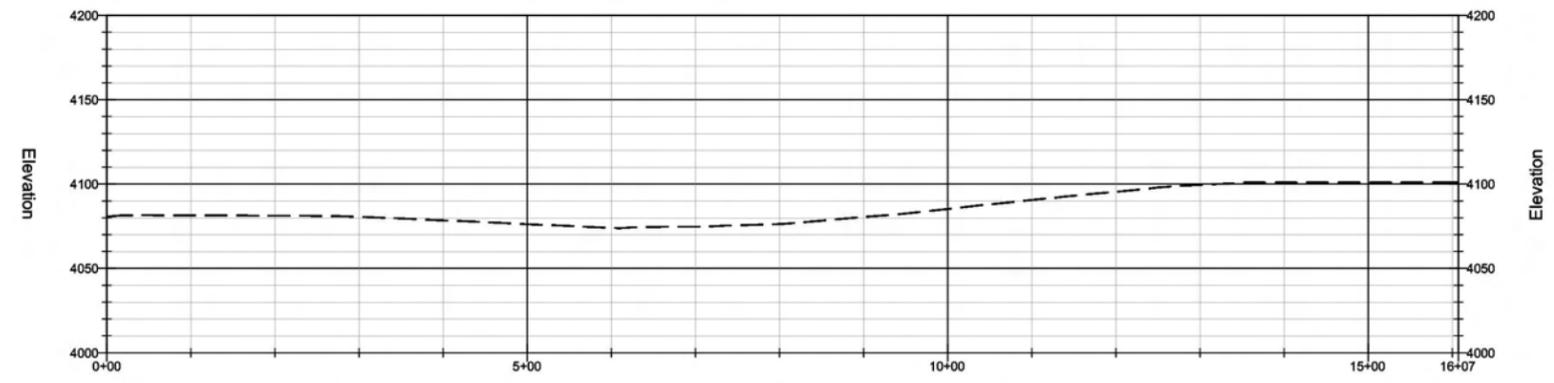
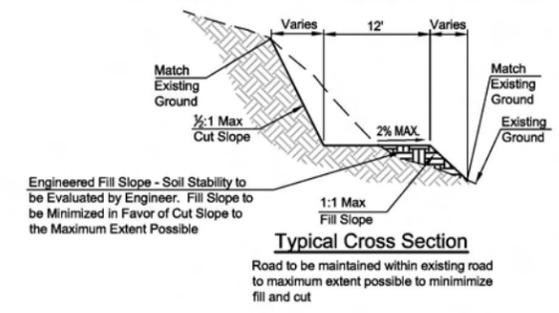
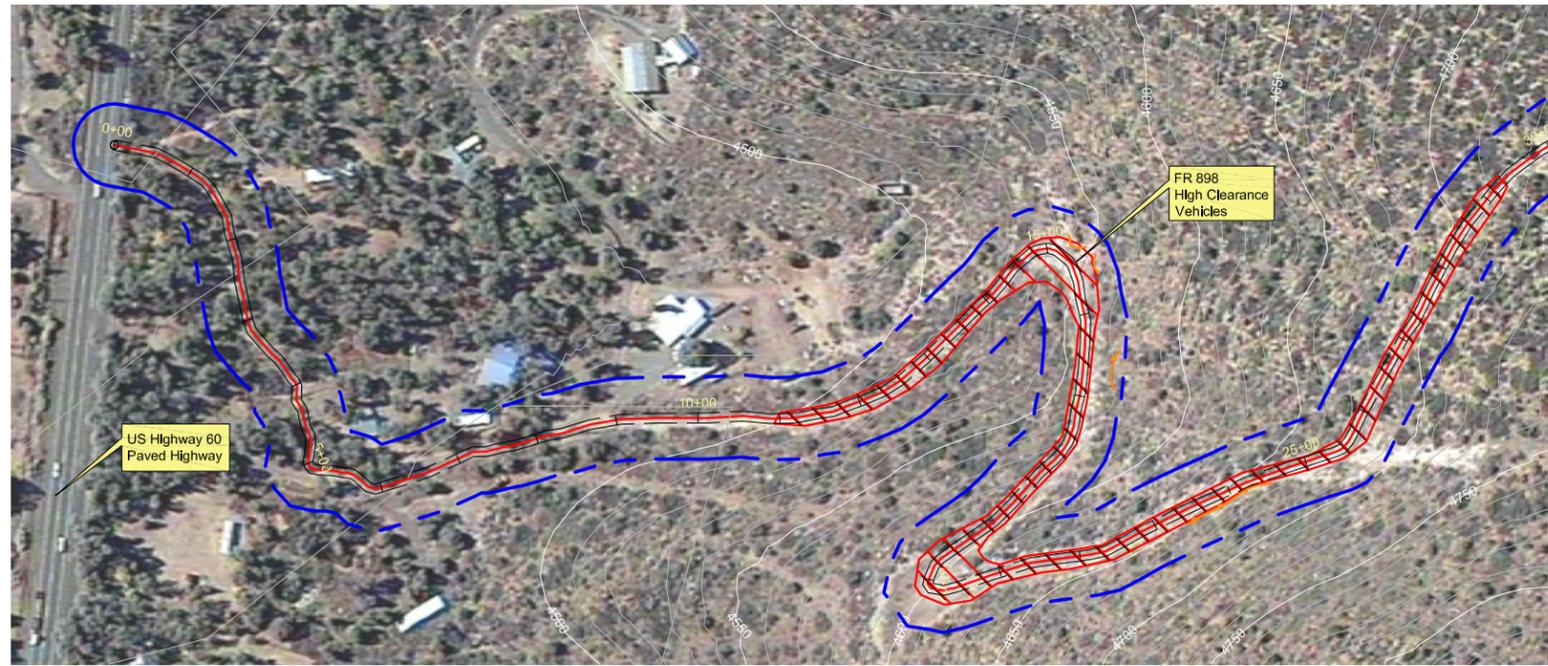


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



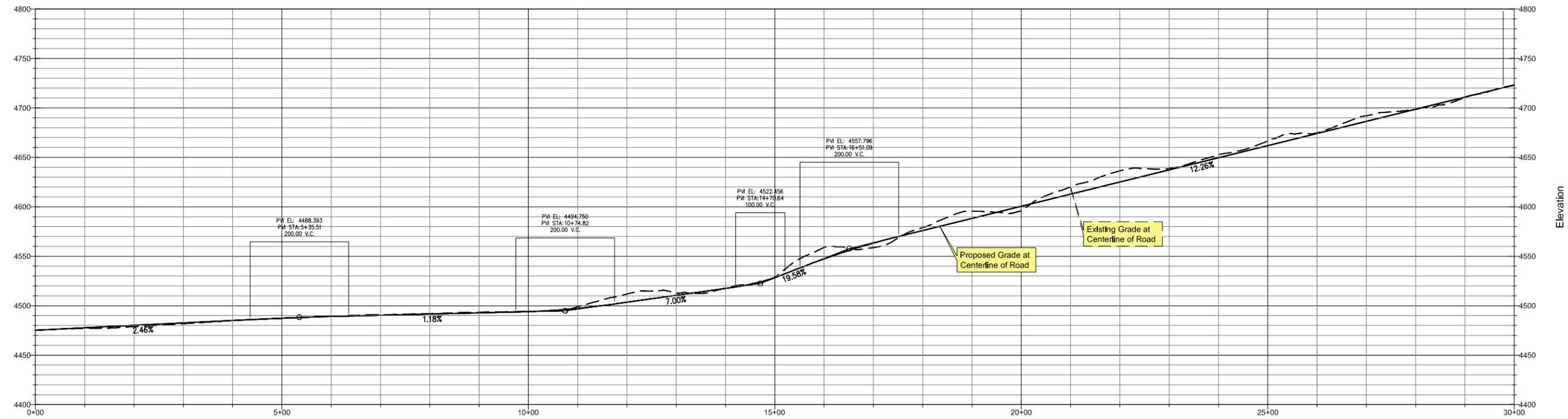


T1S - R13E - SECTION 14

EXTENSION OF FR 898 PROFILE (ON PRIVATELY OWNED LANDS)

- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Water Truck
  - Cat Bulldozer

- This Sheet:**
- Widening of Turns for Equipment
  - Arizona Hedgehog Cacti Would Be Fenced and Protected with Cactus Guards
  - A Biological Monitor Will Be Present During Grading and Clearing Activities
  - No Adverse Effect Would Occur to Cultural Site AR-03-12-02-1403(TNF)

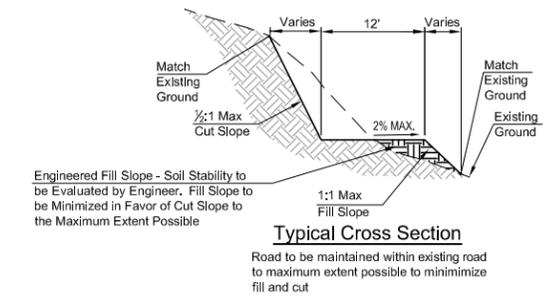


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Image Source: Digit, Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

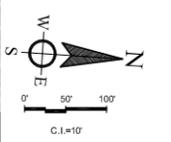
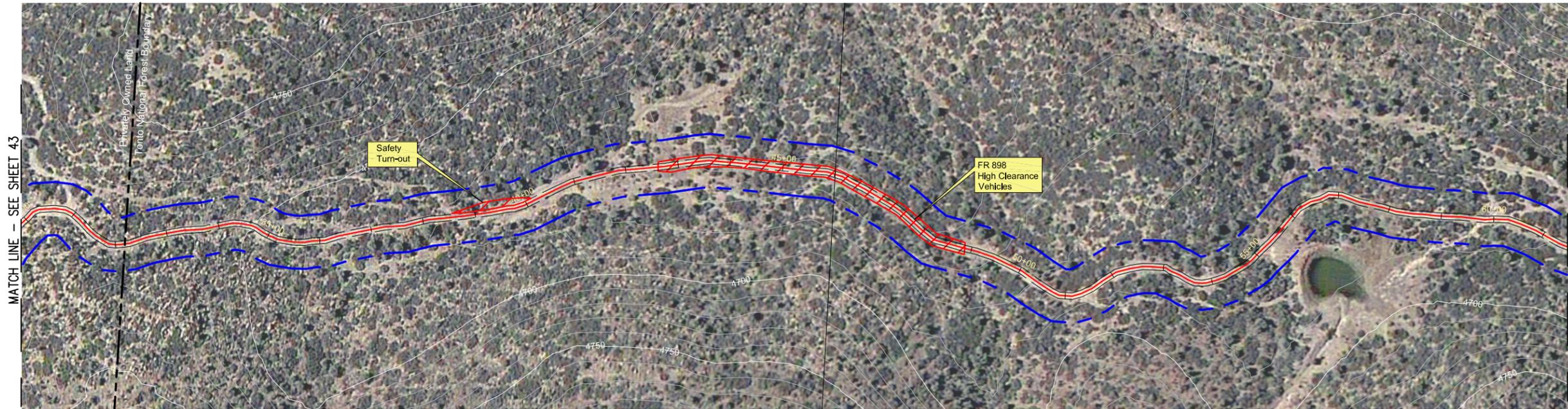
- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 898 Improvements  
 Access To Tunnel Borehole APV-8  
 on Privately Owned Lands  
 Sheet 43 of 53



- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Water Truck
  - Cat Bulldozer

- This Sheet:**
- Providing Safety Turn-out
  - Widening Portions of Road for Access
  - Grading of Existing Road

T1S - R13E - SECTION 14 | T1S - R13E - SECTION 11

**FR 898 PROFILE**

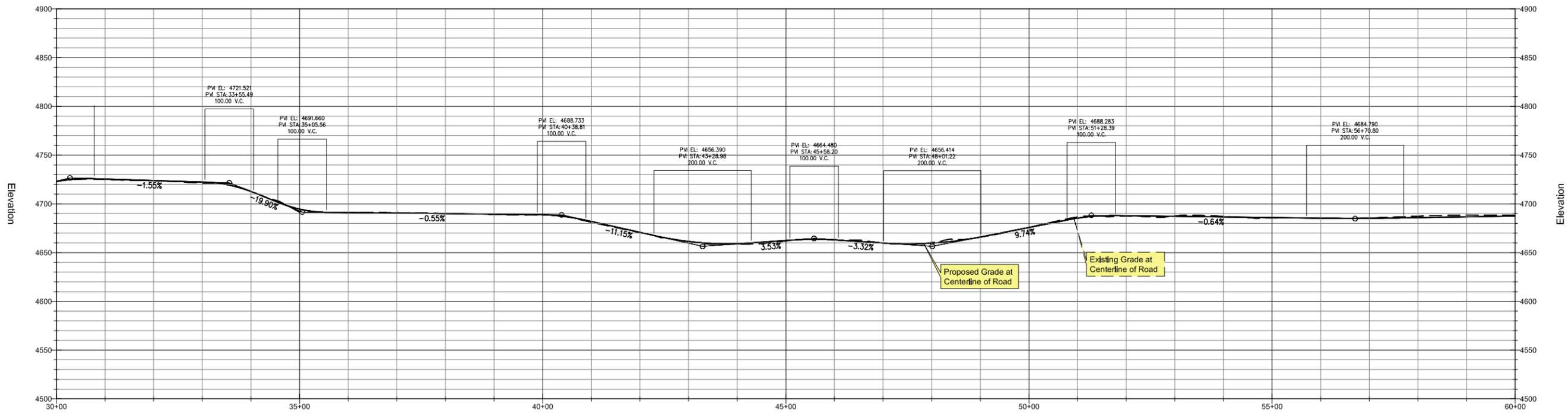
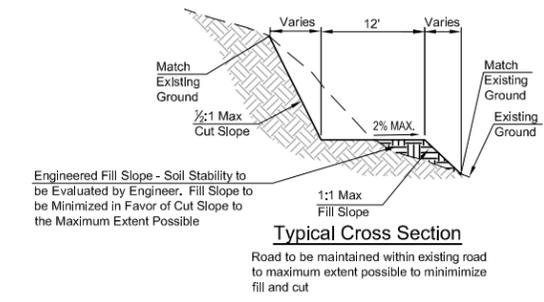


Image Source: Digitl, Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

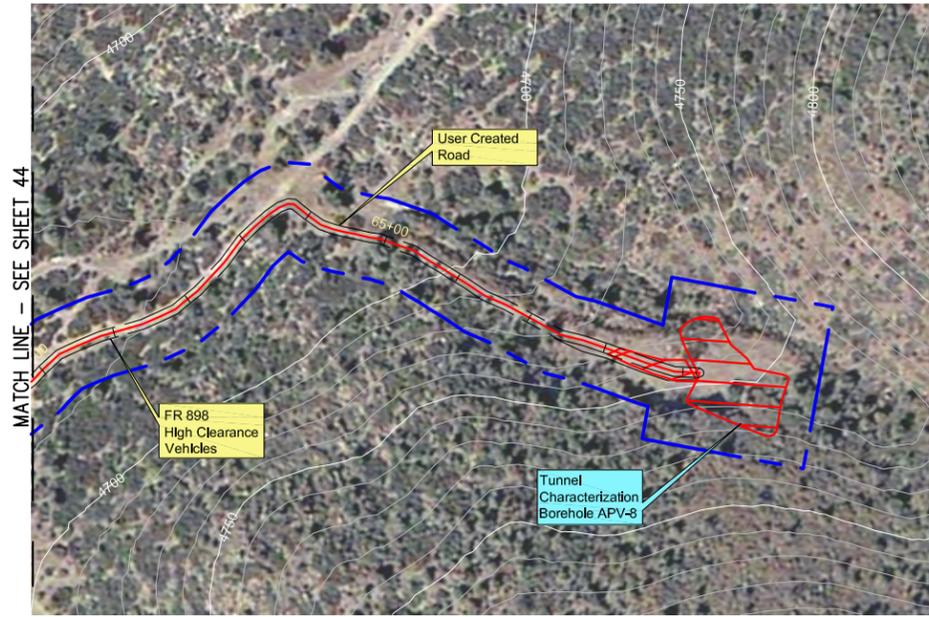
- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



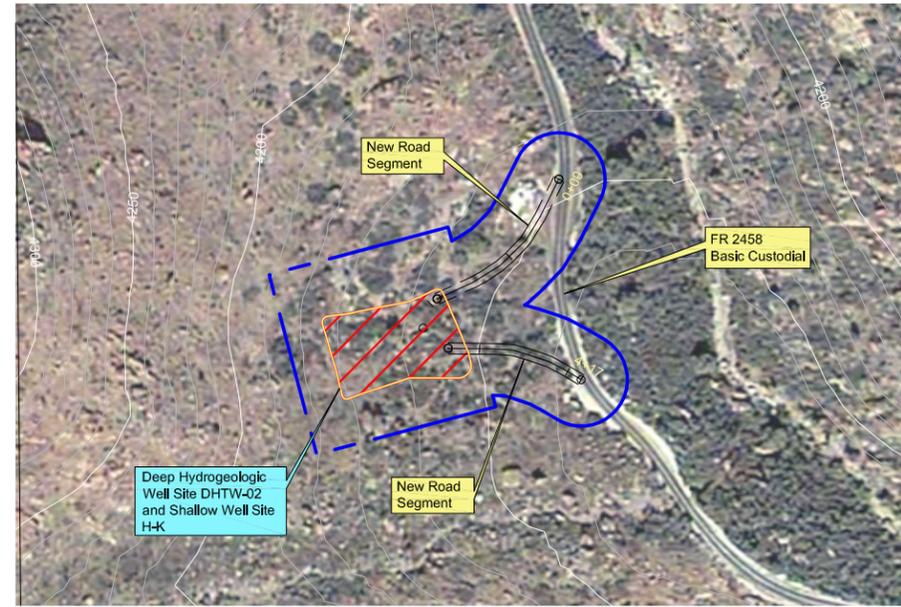
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 Tucson, Az 85712 (520) 206-9585

**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 898 Improvements  
 Access To Tunnel Borehole APV-8  
 Sheet 44 of 53

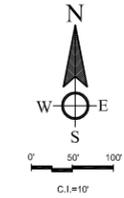
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T1S - R13E - SECTION 11



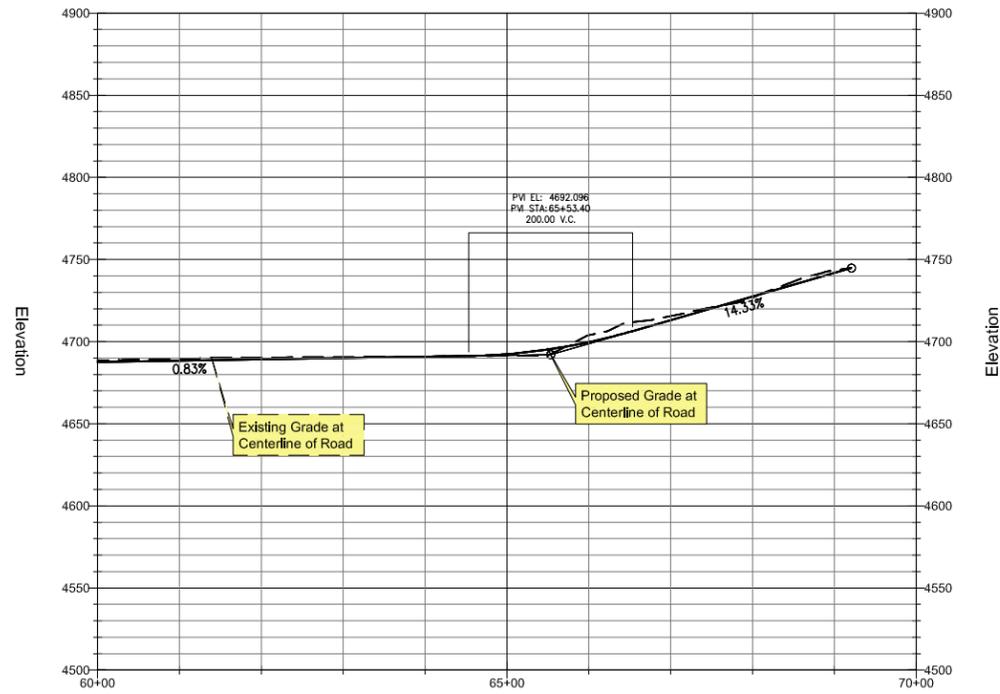
T1S - R13E - SECTION 21



- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Water Truck
  - Mud Tank

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Clearing and Grading for Drill Pads
  - Rock Removed from Excavation of Drill Sites Will Be Crushed and Used to Dress Road Surface

**ACCESS TO APV-8**



**H-K AND DHTW-2 ACCESS PROFILE**

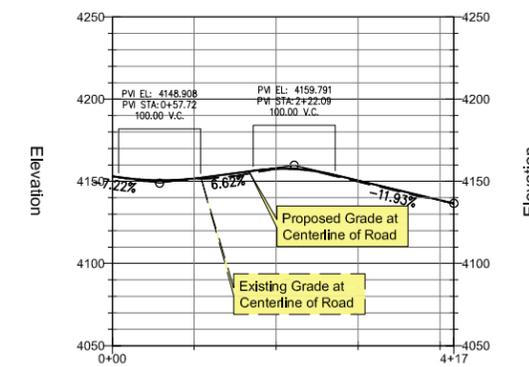


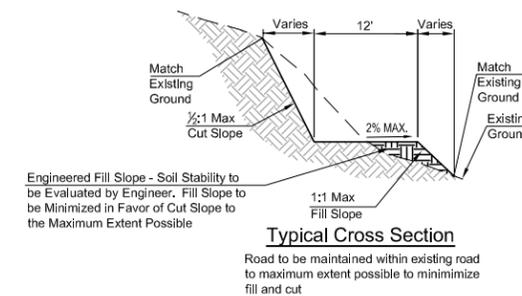
Image Source: Digit, Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

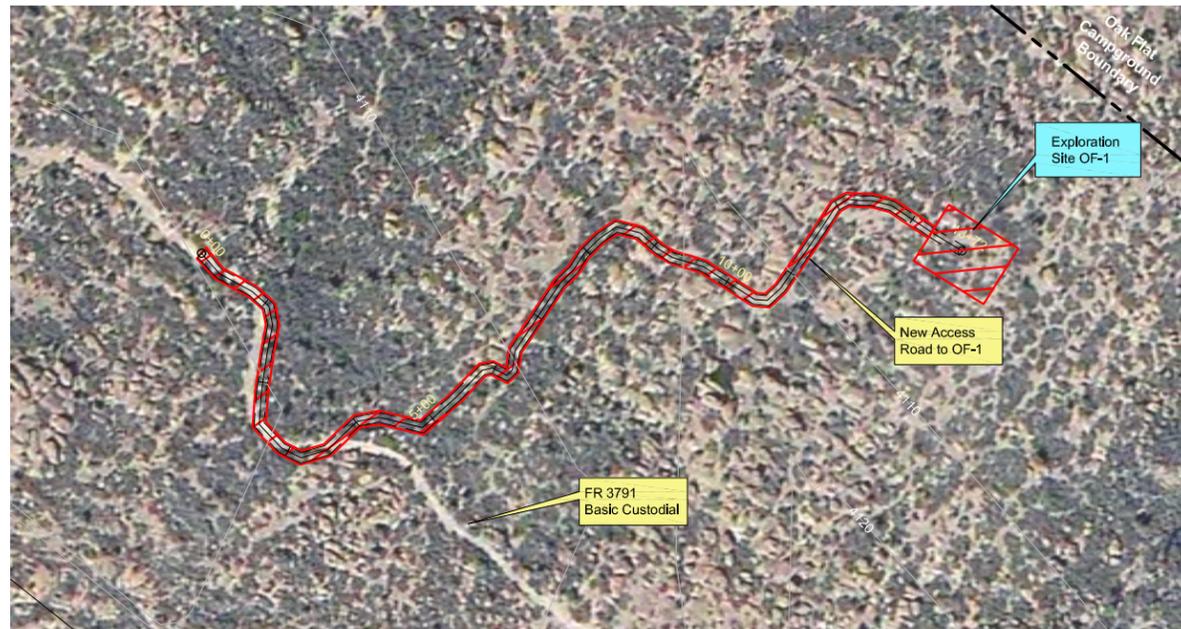
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
 Note: 100' Wide or Greater

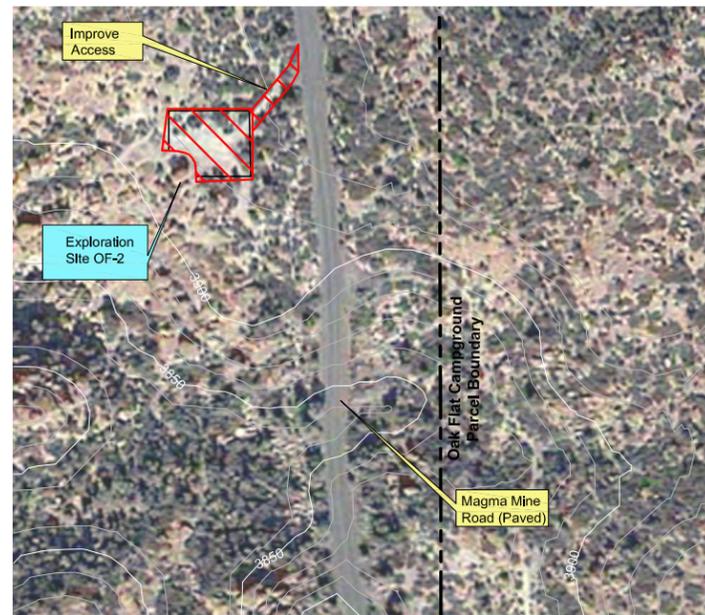
**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





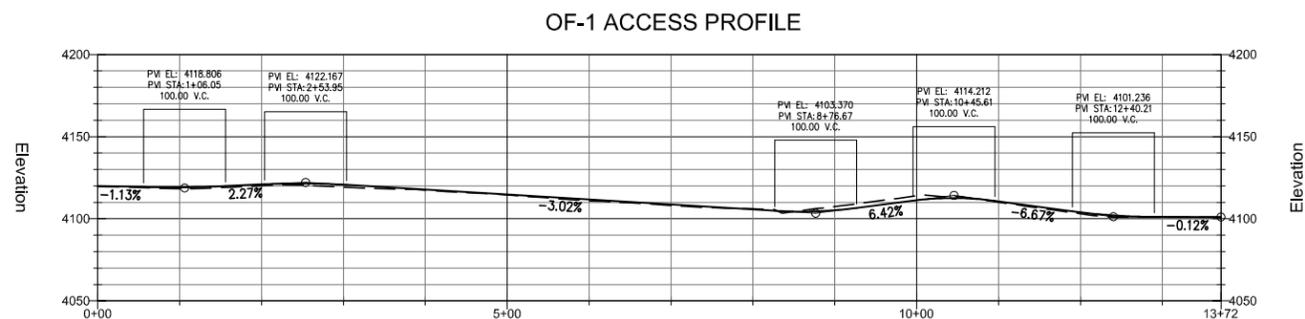
T1S - R13E - SECTION 33



T1S - R13E - SECTION 32

- Equipment List**
- UDR-5000 Core Drill Rig
  - OP-50 Core Drill Rig
  - Mud Tank
  - Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rig
  - Cat Bulldozer
  - Track Hoe
  - Water Truck

- This Sheet:**
- Clearing and Grading for Drill Pads
  - Constructing New Access Road to OF-1
  - An Archaeological Monitor Will Be Present for Clearing Activities Associated with OF-1 and Access to this Site
  - No Features Within AR-03-12-02-125 (TNF) Would Be Impacted



T1S - R13E - SECTION 33

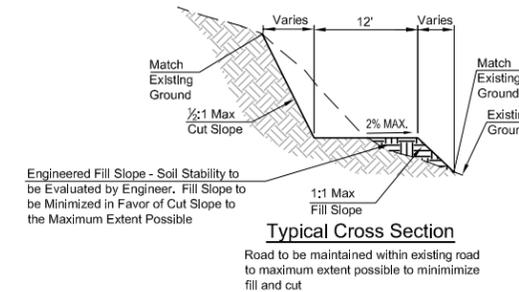
Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
 Note: 100' Wide or Greater

**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience

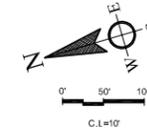
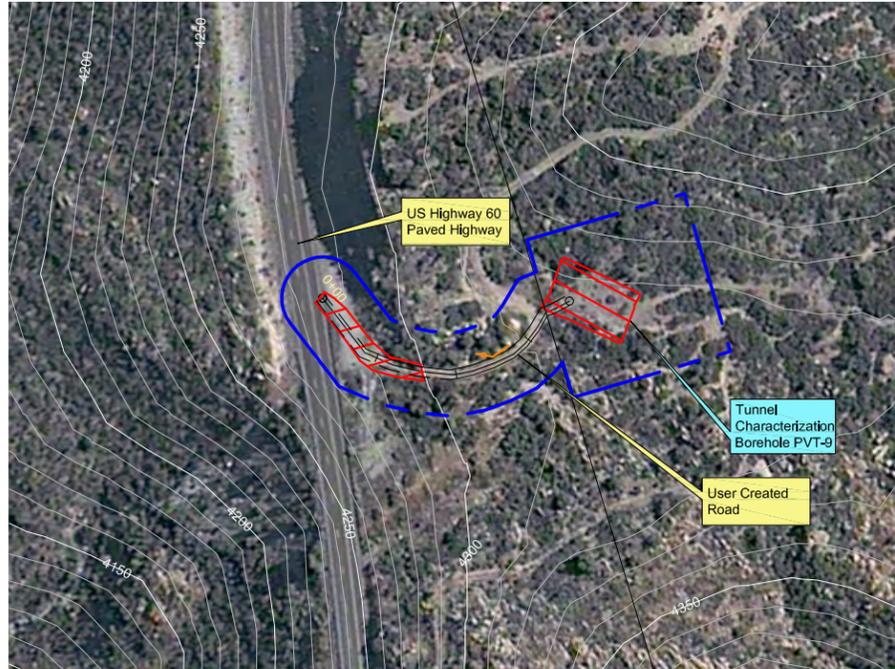


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**RESOLUTION COPPER MINING, LLC**

Resolution Pre-Feasibility Activities  
 OF-1, OF-2, AND OF-3, and  
 OF-1 Access Road Improvements





- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Water Truck
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - UDR-1500 Core Drill Rig
  - Mud Tank
  - Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rigs
  - Cat Bulldozer

- This Sheet:**
- Minor Improvements to Existing Road
  - Clearing and Grading for PVT-9 Pad
  - Arizona Hedgehog Cacti Will Be Fenced and Protected with Cactus Guards
  - A Biological Monitor Will Be Present During Clearing Activities
  - Cultural Sites AR-03-12-02-1448(TNF) and AR-03-12-02-1449(TNF) are Ineligible for Inclusion in the NRHP and Would Not Be Adversely Affected

**PVT-9 ACCESS PROFILE**

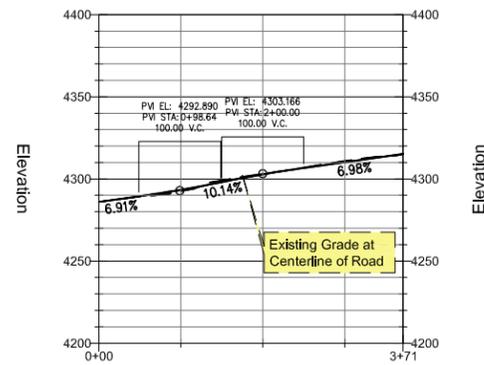


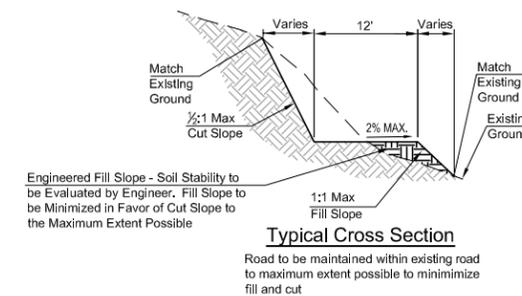
Image Source: Digit, Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
 Note: 100' Wide or Greater

**Forest Service Road Designations:**

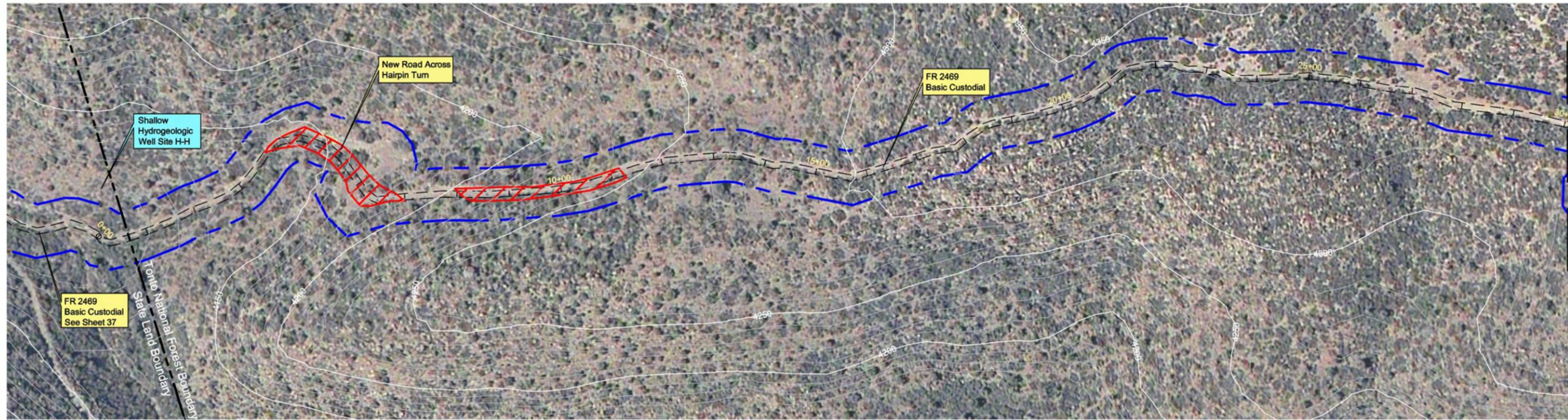
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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**RESOLUTION COPPER MINING, LLC**

Resolution Pre-Feasibility Activities  
 Access To Tunnel Borehole PVT-9



- Equipment List**
- Lang LM-140 Series Tophead
  - Rotary Drill Rig or equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Track Hoe

- This Sheet**
- Minimal New Surface
  - Disturbance - Grading of Existing Road
  - Widening Turn
  - Leveling Small Washboard Area Close to Pad H-H
  - Cutting New Road Across Hairpin Turn

**FR 2469 PROFILE**

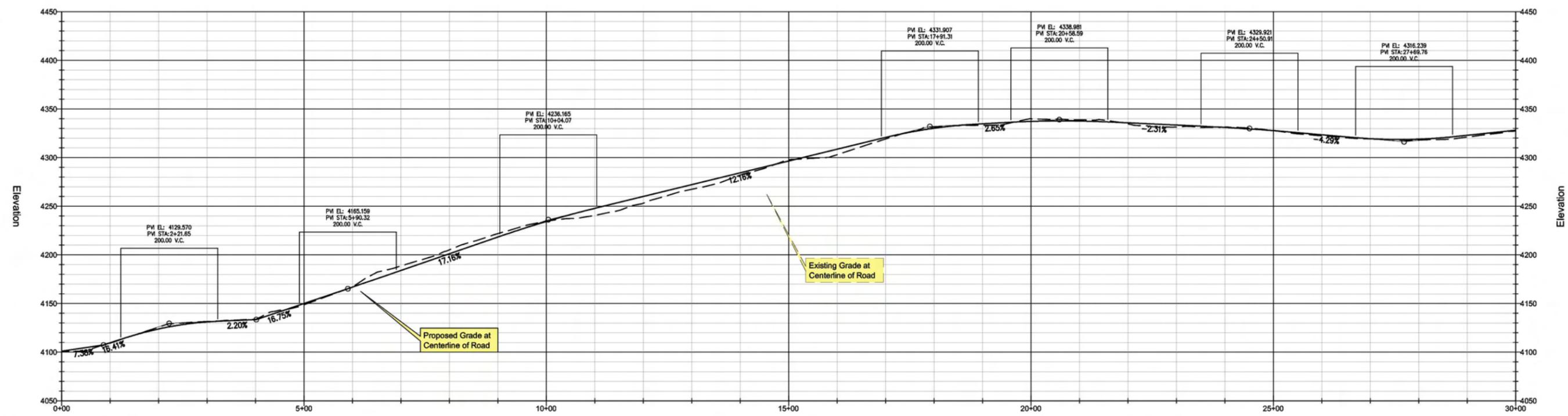
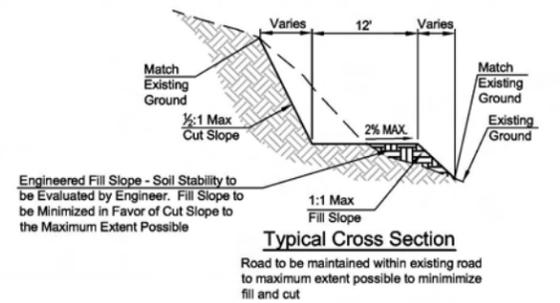


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

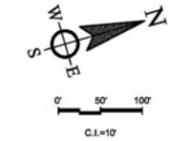
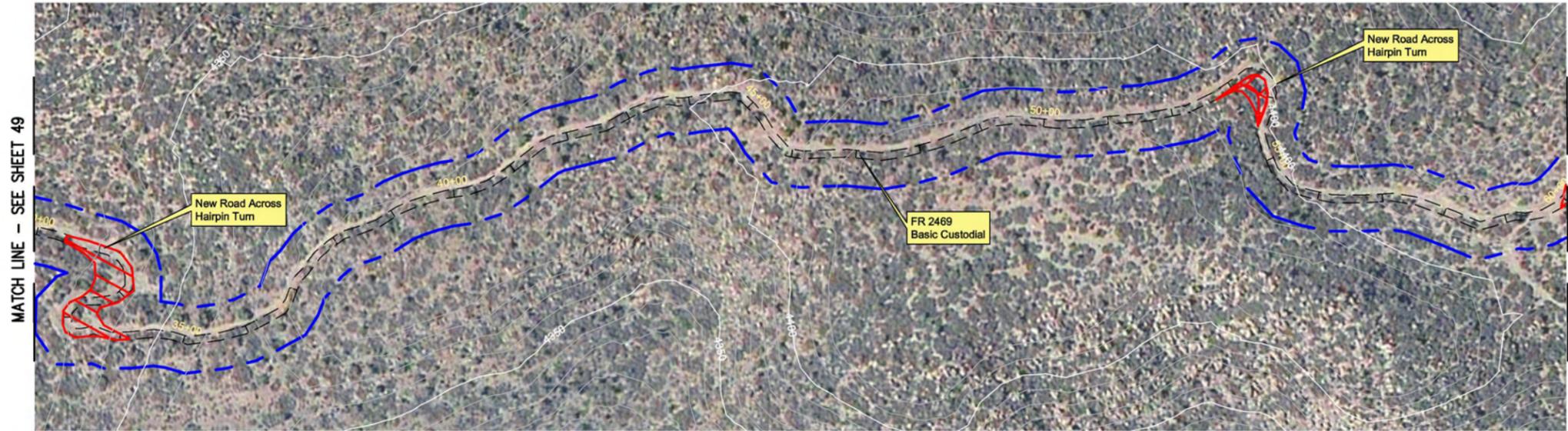
- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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- Equipment List**
- Lang LM-140 Series Tophead Rotary Drill Rig or Equivalent
  - Pipe Trucks
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck
  - Track Hoe

- This Sheet:**
- Minimal New Surface
  - Disturbance- Grading of Existing Road.
  - Cutting New Road Across Hairpin Turns at Two Locations

T1S - R13E - SECTION 35

FR 2469 PROFILE

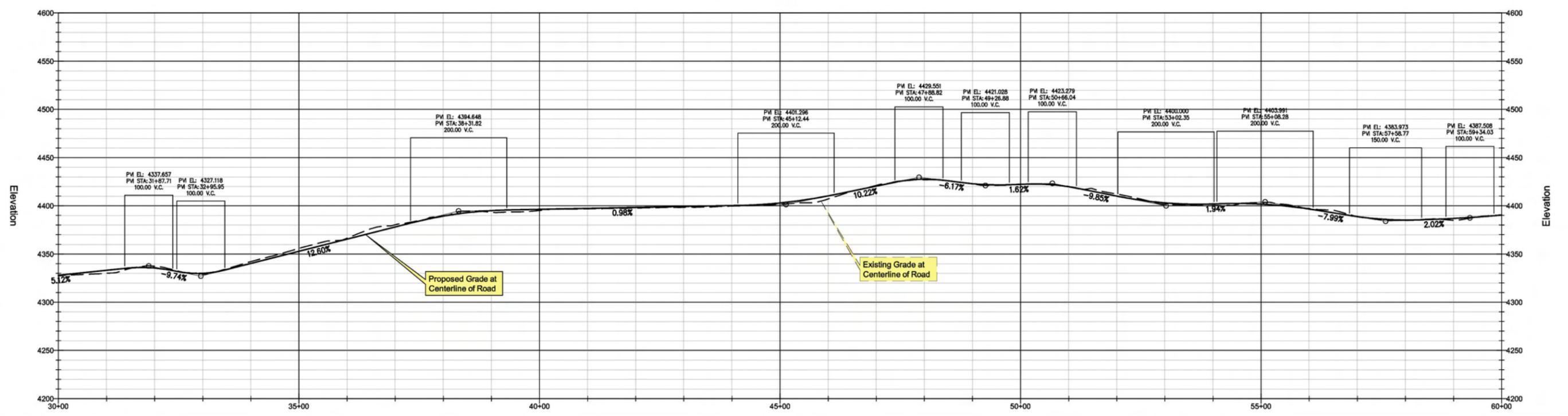
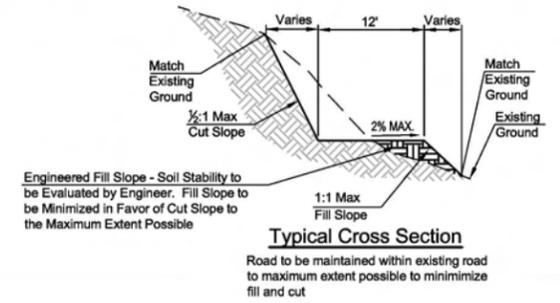
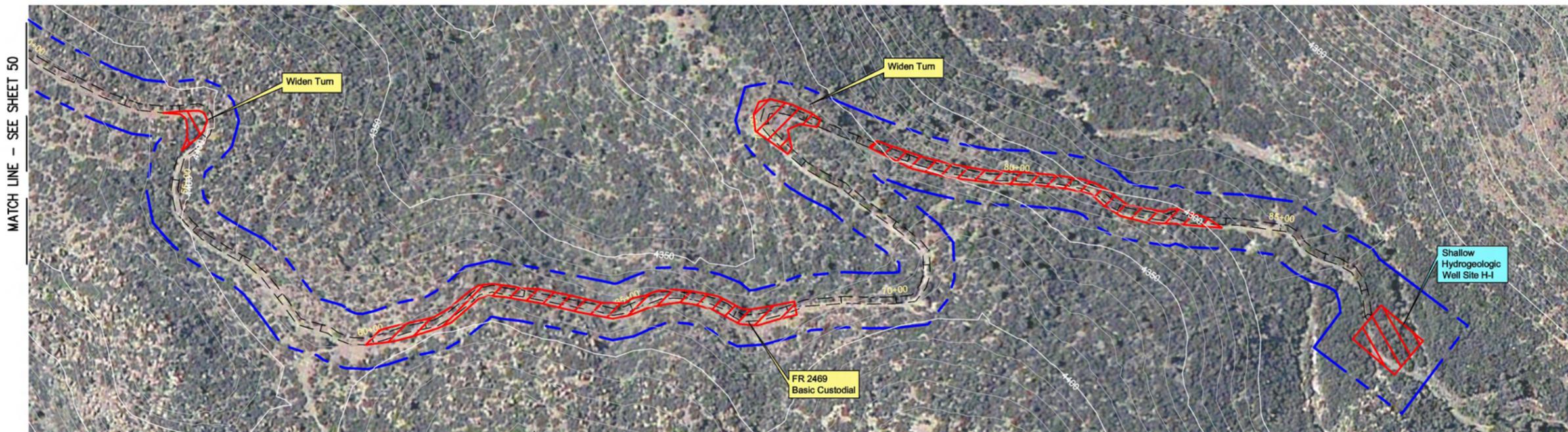


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/ Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area -  
Note: 100' Wide or Greater

- Forest Service Road Designations:**
- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Mud Tank
  - Heavy Duty Air Compressor
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rig
  - Front End Loader
  - Backhoe
  - Tracked Jaw Crusher
  - Water Truck

- This Sheet:**
- Grading of Existing Road
  - Widening of Tight Spots with Track Hoe
  - Clearing and Grading for H-1 Pad

T1S - R13E - SECTION 35 | T1S - R13E - SECTION 35

**FR 2469 PROFILE**

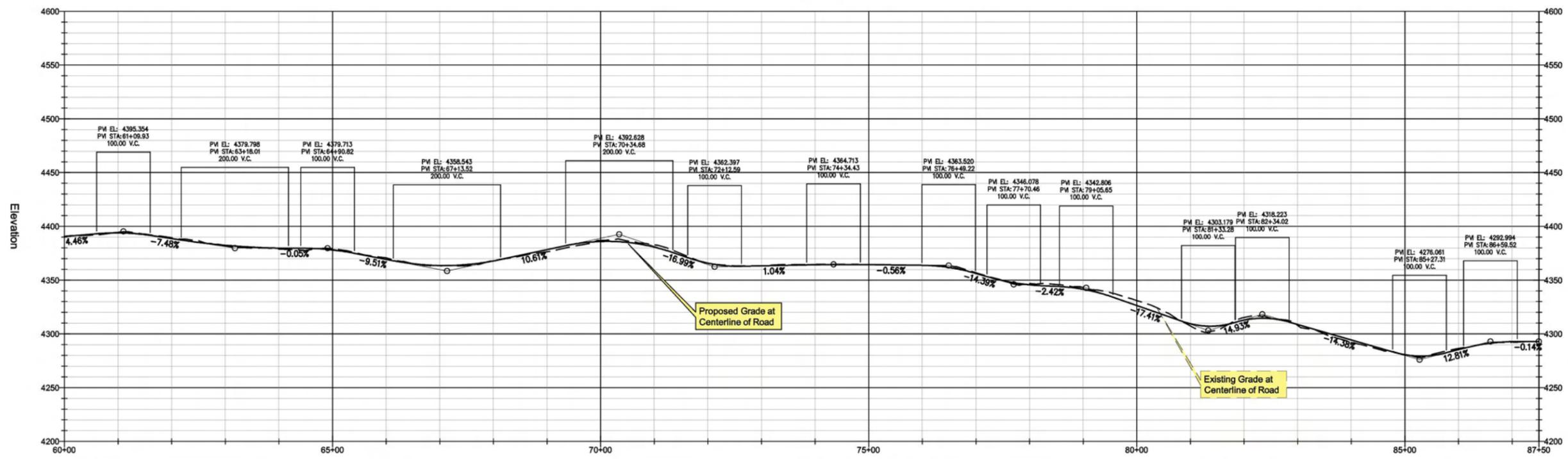
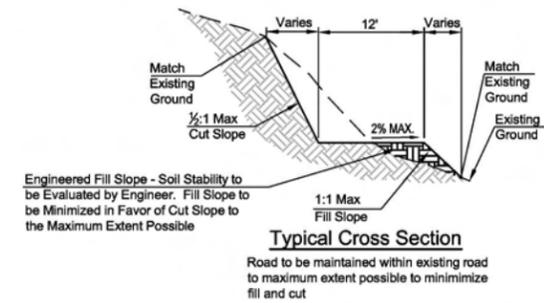


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
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- Legend**
- Existing Road - To Be Improved
  - Approximate Area of Cut/Fill
  - T-Post and Wire Clear Limit Fencing  
Note: All Fencing to be placed by Qualified Monitors Prior to Construction
  - National Forest Boundary
  - Resource Survey Area - Note: 100' Wide or Greater

- Forest Service Road Designations:**
- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
  - High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
  - Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
  - Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
  - High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience



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**RESOLUTION COPPER MINING, LLC**  
 Resolution Pre-Feasibility Activities  
 FR 2469 Improvements and Shallow Well H-1  
 Sheet 51 of 53



T1S - R13E - SECTION 28

Note: This portion of AR-03-12-02-1077 is considered a non-contributing element of this historic site (Old Highway 60). No adverse impacts would result from the placement of PVT-3.



T1S - R13E - SECTION 28 T1S - R13E - SECTION 27

Note: No features within AR-03-12-02-1077 (TNF) would be impacted by clearing and grading activities.

- Equipment List**
- Lang LM-140 Series Tophead Rotary Drill Rig or Equivalent
  - UDR-1500 Core Drill Rig
  - Mud Tank
  - Schram 685 Rotary Drill Rig
  - Pipe Trucks
  - Water Storage Tank
  - Generators for Drill Rig
  - Cat Bulldozer
  - Track Hoe
  - Tracked Jaw Crusher
  - Water Truck

- This Sheet:**
- Rock Removed From Excavation of Drill Sites PVT-3, PVT-4, and DHTW-01 Will Be Crushed and Used to Dress Road Surface
  - Access to Drill Sites from the South on Existing Roads
  - No Improvements to Roads Required

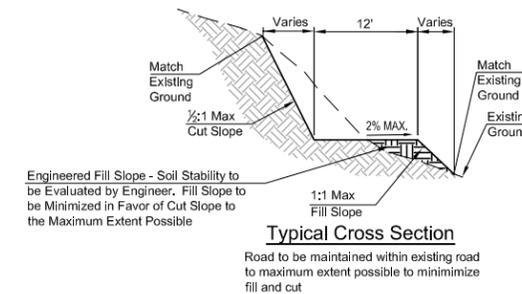
Image Source: Digit, Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

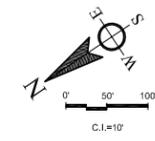
**Legend**

- Existing Road - To Be Improved
- Approximate Area of Cut/ Fill
- T-Post and Wire Clear Limit Fencing  
 Note: All Fencing to be placed by Qualified Monitors Prior to Construction
- National Forest Boundary
- Resource Survey Area -  
 Note: 100' Wide or Greater

**Forest Service Road Designations:**

- 1- Basic Custodial Care (closed) - assigned to intermittent service roads during times when they are closed to vehicular traffic
- 2- High Clearance Vehicles - assigned to roads operated for use by high clearance vehicles
- 3- Suitable for Passenger Cars - assigned to roads operated and maintained for travel by a prudent driver in a standard passenger car
- 4- Moderate Degree of User Comfort - assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
- 5- High Degree of User Comfort - assigned to roads that provide a high degree of user comfort and convenience





- Equipment List**
- Track Hoe
  - Hammer Hoe
  - Front End Loader
  - Tracked Jaw Crusher
  - Lang LM-140 Series Tophead
  - Rotary Drill Rig or Equivalent
  - Schram 685 Rotary Drill Rig
  - UDR-1500 Core Drill Rig
  - Pipe Trucks
  - Water Truck
  - Mud Tank
  - Water Storage Tank
  - Generators for Drill Rig
  - Cat Bulldozer

- This Sheet:**
- Minimal New Surface Disturbance - Grading of Existing Road
  - Clearing and Grading for PVT-7 Pad
  - Clearing and Grading Along FR 2511 for Potential Helipad Locations

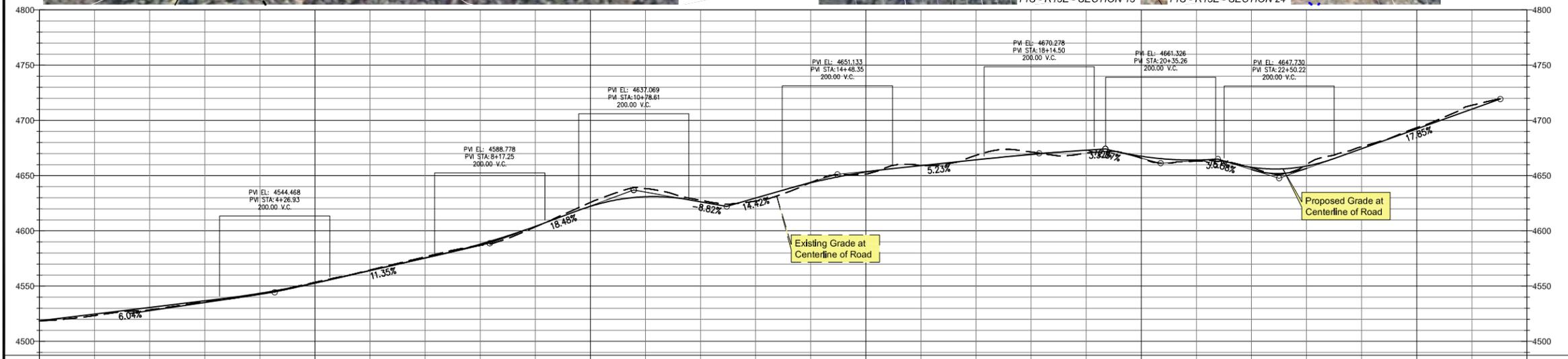
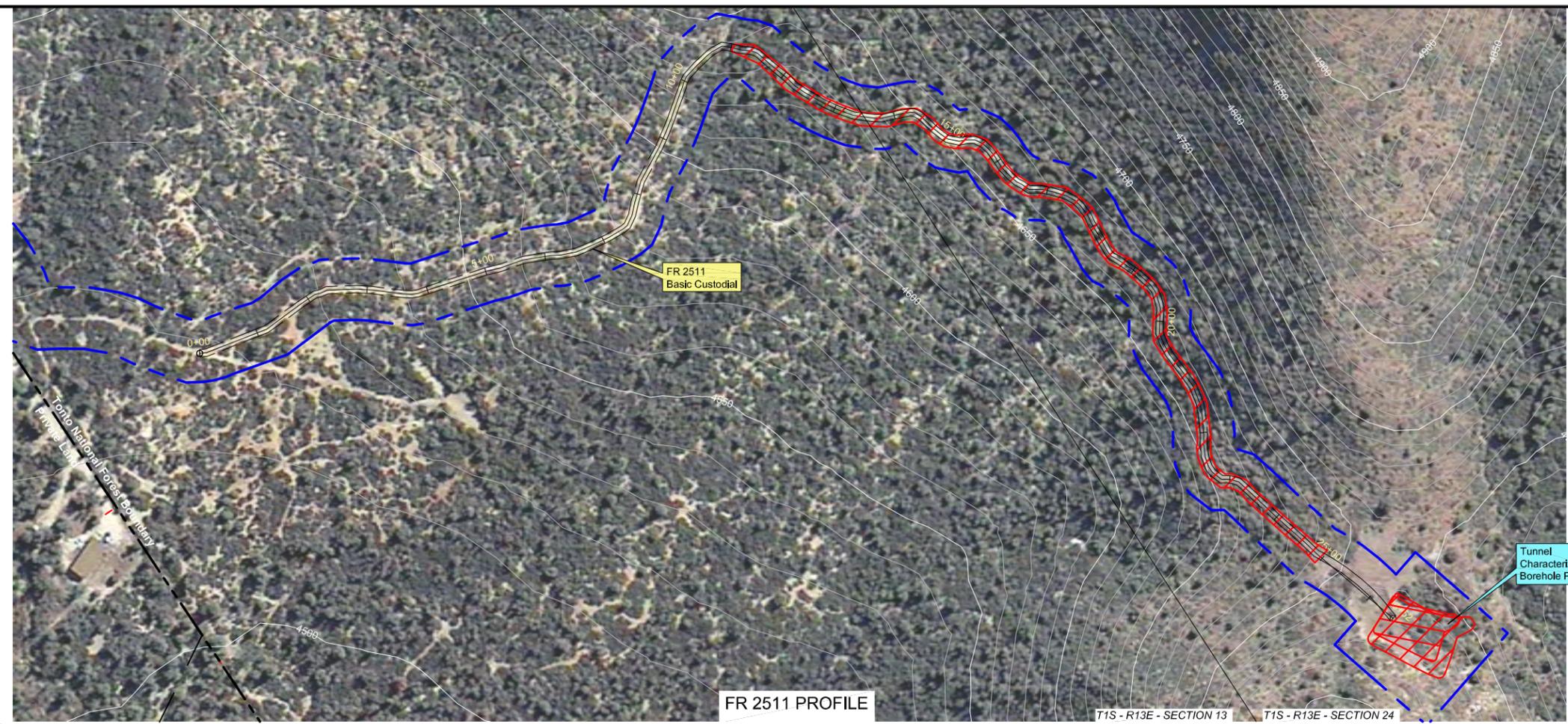


Image Source: Digit. Globe QuickBird Dataset  
 Topographical Source: USGS NED Dataset  
 Contour Interval= 10'  
 PVI= Point of Vertical Intersection of Slopes  
 VC = Vertical Curve Between Slopes to Avoid Abrupt Transition Between Grades

- Legend**
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