

2. Serendipity Road Improvements Grant Application

Project ranking criteria for (Project Title): _____

- 1. Does proposed project include one or more stream crossings and corrective grading within and close to a stream channel?

Yes No

If yes: Number of stream crossings: _____

Corrective grading within and close to a stream channel: _____

- 2. Are improvements to roads in priority sub watersheds?

Yes No

If yes: Which priority sub watershed: _____

Refuge sub watershed Critical sub watershed

- 3. Is the proposed project maintained by a Road Maintenance Association?

Yes No

If yes: Name of Road Maintenance Association: _____

Is the proposed project a cultivation sites approved under the 2016 Commercial Medical Marijuana Land Use Ordinance (CMMLUO) AND will the improvements bring the road into compliance with the standards?

Yes No

If yes: What are the required standards/Conditions of Approval: _____

- 4. Is the proposed project located in an area of highly erodible soils, steep slopes, proximity to a watercourse(s), and have the presence of impacted fisheries?

Yes No

If yes, check all that apply:

Highly erodible soils Steep slopes
 Proximity to a watercourse Presence of impacted fisheries

Provide additional notes, if needed, based on boxes checked above: _____

After evaluating the above, provide the following points (not to exceed one hundred total) based on the proposed project's:

- Project Design and Expected Outcomes – up to a total of 80 Points, based upon the project's alignment with the Program requirements and criteria set forth in these Guidelines.

Total score: _____

- Project Budget – up to a total of 10 Points, based on the applicant's ability to perform the work necessary to implement the project in a cost-efficient manner.

Total score: _____

- Experience and Capacity – up to 10 Points, based on the applicant's experience and capacity to perform the work necessary to implement the project.

Total score: _____

Total Final Ranking Score (out of 100 points): _____

APPLICATION PACKET CHECKLIST

Please check below to ensure you have a complete application. Once complete, email the following documents, in pdf format with the text "Application for Remediation Grant Program Funding" in the subject line to mrichardson@co.humboldt.ca.us.

- X Signed Application Submission Form
- X Project Description – Summary of the Project, up to 2 pages.
- X Plot Plan
- X Plot Plan Checklist – Attached
- X Cross sections of proposed work including topographic elevations
- X Scope of Work – Detailed Description of Work
- X Schedule for Completion – Identify Milestones
- X Erosion Control Plan and Monitoring Plan
- X Budget – Be as specific as possible – sample attached
- X Project Maps and Figures
- Letter(s) of Support (optional)

APPLICATION FORM - Commercial Cannabis Land Use Ordinance Mitigation and Remediation Fund Program

Project Title: Serendipity Road Improvements Date of Application: October 29, 2021

Applicant Name: Serendipity Associates, Inc. Project APN: 218-091-007

Contact Person Name and Title: Tina Gordon, CEO

Contact Phone: (415) 710-3018 Contact Email: serendipitycollective@gmail.com

Contact Address: P.O. Box 5, Garberville, CA 95542

Amount Requested: \$99,426.00 Total Budget: \$132,049.00

Project Timeline: Start Date: July 1, 2022 End Date: September 1, 2022

Signature of Applicant: _____



Serendipity Road Improvements
Applicant: Serenity Associates, Inc., Tina Gordon
APN 218-091-007

Project Description

The project is located at 671 South Face Road (APN 218-091-007). The commercial cannabis operation consists of approximately 13,600 sf of permitted cultivation.

The field assessment completed by Stillwater Sciences (Erosion Remediation plan dated May 6, 2019), identified several stream crossing sites on the parcel that require upgrading to hydrologically disconnect the road system from the watercourses that drain south into Chamise Creek toward the Eel River. The remediation plan is intended to decrease existing and potential future sediment delivery into these unnamed intermittent and non-fishbearing perennial tributaries.






















The project involves the upgrade of four culverts and decommissioning of one crossing on the property. The project proposes to replace undersized culverts with ones designed to pass 100-year return interval flows, and armor crossing fills. It is critical that culverts are properly sized so that 100-year flows do not exceed the drainage structure capacity, which could lead to erosion of the adjacent outboard edge of the road.

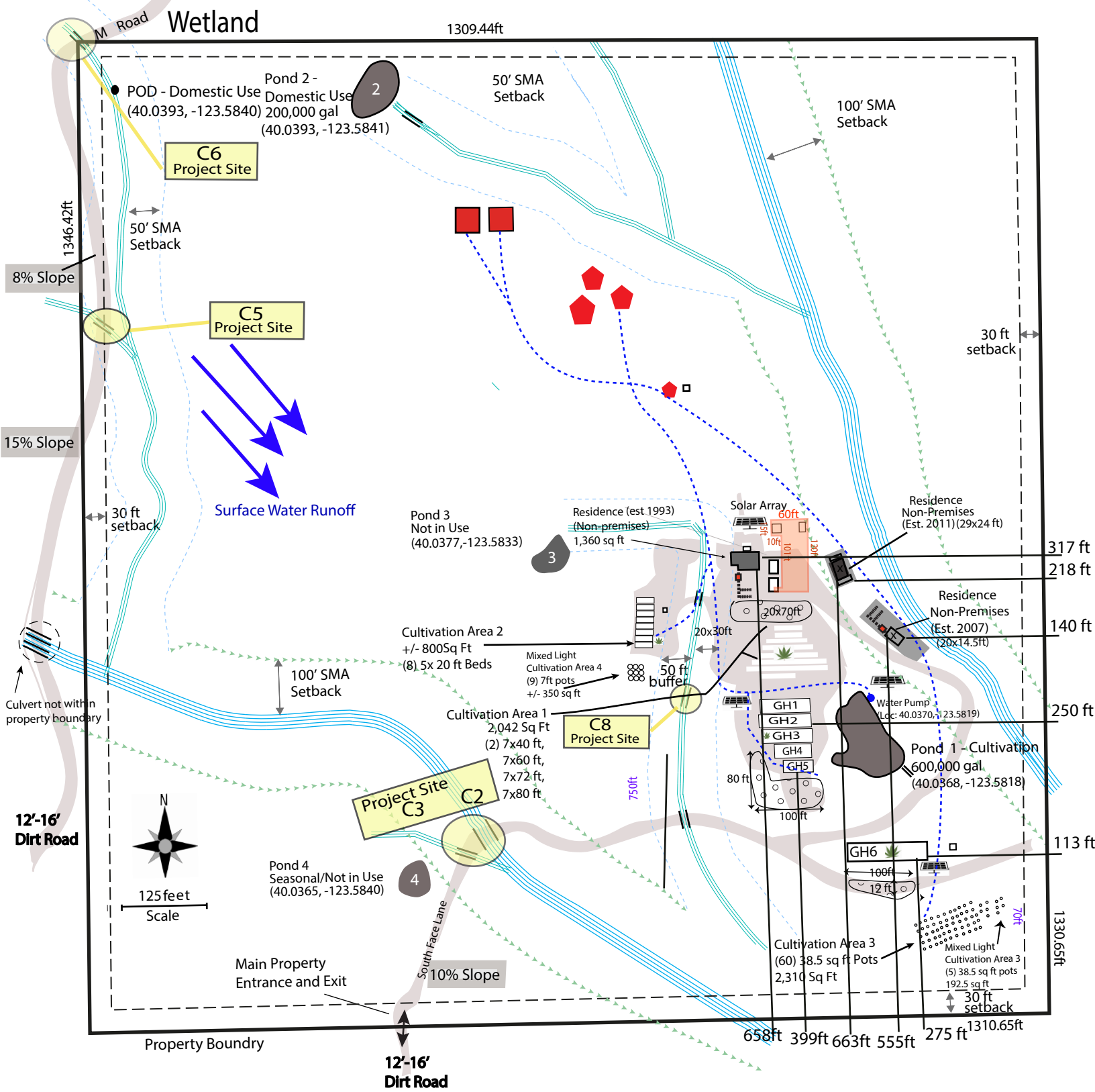
These upgraded watercourse crossings will achieve 100-year flood requirements and reduce sediment deposits into the streams that are connected to the Eel River.

GIS indicates that the parcel is in an area of high slope instability. The parcel is not located in a flood zone, nor is it in earthquake hazard zone. The subject property is surrounded by other rural improved parcels. No impact is anticipated on these surrounding parcels.

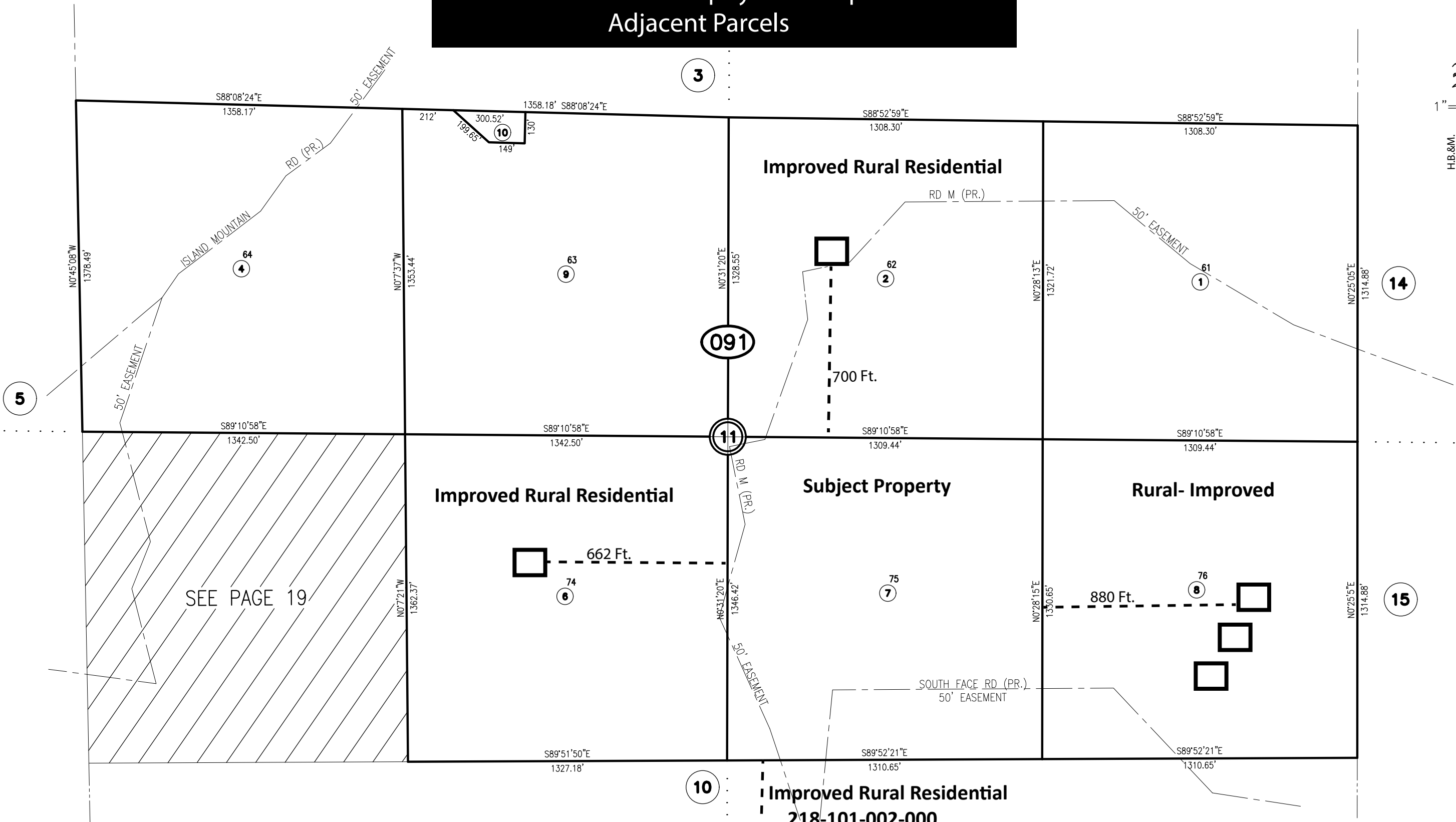
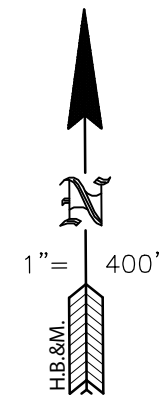
Serendipity Associates Plot Plan - APN: 218-091-007

LEGEND

 Cultivation Area	 Solar	 Gravel Roads, Graded Areas
 Poly Water Storage Tanks	 <P> Proposed Structures	 Class II Watercourse
 Poly Water Bladder Storage	 Ag Structures	 Class III Watercourse
 Pond	 Common Area	 Propagation Area
 Septic System	 Residence	 Irrigation Lines
 Water Pump	 Culverts	 Non-Premises
 100' Setback	 50' Setback	 30' Setback



**Tina Gordon- Serendipity Road Improvement
Adjacent Parcels**



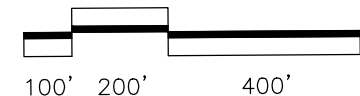
SEE PAGE 19

ASSESSOR'S PARCEL MAP

1. THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY.
2. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN.
3. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

RS. BK. 24, SURVEYS PG. 124
PM 58 BK.1 OF PARCEL MAPS, PG 81
(RANCHO PALO VERDE)

NOTE - Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles.



PLOT PLAN AND TENTATIVE MAP CHECKLIST

The following information must be shown on your plot plan or tentative map. Please check the box to the left of the items shown on the plot plan or tentative map. If any item is not on your site to your knowledge, write "N/A" next to the box. Plot plans shall be drawn on a minimum size sheet of 8-1/2" x 11", and tentative subdivision maps on a minimum size sheet of 18" x 26". **Note: This Checklist must be completed by the applicant and submitted with your application.**

Applicant's Name ereidi A e i G rd APN 9 -

FOR ALL PROJECTS	
<input type="checkbox"/>	1. Name of applicant(s)
<input type="checkbox"/>	2. Location or vicinity map (on or attached to the plot plan)
<input type="checkbox"/>	3. The subject parcel (show entire parcel with dimensions)
<input type="checkbox"/>	4. Date, north arrow and scale
<input type="checkbox"/>	5. Name, County road numbers, and width of all existing and proposed access roadways adjacent to or within the subject parcel (indicate width of traveled way, grade (in % slope), and surface)
<input type="checkbox"/>	6. Existing <u>and</u> proposed improvements (label as "existing" and "proposed" with dimensions and distance to nearest two (2) property lines)
<input type="checkbox"/>	<input type="checkbox"/> a. Structures and buildings (include floor area, height and proposed use)
<input type="checkbox"/>	<input type="checkbox"/> b. Driveways and turnaround areas (indicate width, grade (in % slope) and surface)
<input type="checkbox"/> A	<input type="checkbox"/> c. Utility lines (electric, gas, telephone, sewer, water, and cable TV)
<input type="checkbox"/>	<input type="checkbox"/> d. Septic tanks and leachfields (label primary/reserve areas and test holes)
<input type="checkbox"/> A	<input type="checkbox"/> e. Wells
<input type="checkbox"/> A	<input type="checkbox"/> f. Parking and loading areas (show individual parking spaces, including handicapped parking and ramps)
<input type="checkbox"/> A	<input type="checkbox"/> g. Storm drains, curbs and gutters
<input type="checkbox"/> A	<input type="checkbox"/> h. Emergency water storage tanks and fire hydrants
<input type="checkbox"/> A	<input type="checkbox"/> i. Landscaped areas (include proposed exterior lighting)
<input type="checkbox"/> A	<input type="checkbox"/> j. Major vegetation (identify mature trees (12" dbh or larger) to be removed)
<input type="checkbox"/> A	<input type="checkbox"/> k. Diked areas
<input type="checkbox"/> A	<input type="checkbox"/> l. Proposed grading and fill (estimate volume)
<input type="checkbox"/> A	<input type="checkbox"/> m. Signs (indicate size, illuminated, and design (e.g., monument, pylon, etc.))
<input type="checkbox"/> A	<input type="checkbox"/> n. Other - specify _____
<input type="checkbox"/>	7. Direction of surface water runoff
<input type="checkbox"/>	8. Location and width of all existing and proposed easements of record
<input type="checkbox"/>	9. Hazardous areas (indicate on map if on the project site <u>or</u> within 400 feet of the project site):
<input type="checkbox"/> A	<input type="checkbox"/> a. Areas subject to inundation or flooding
<input type="checkbox"/>	<input type="checkbox"/> b. Steep or unstable slopes
<input type="checkbox"/> A	<input type="checkbox"/> c. Expansive (clay) soils
<input type="checkbox"/> A	<input type="checkbox"/> d. Earthquake faults
<input type="checkbox"/> A	<input type="checkbox"/> e. Hazardous waste or substance sites
<input type="checkbox"/> A	<input type="checkbox"/> f. Other - specify _____
<input type="checkbox"/>	10. Sensitive habitat areas (indicate on map if on project site <u>or</u> within 400 feet of the project site):
<input type="checkbox"/>	<input type="checkbox"/> a. Creeks, rivers, sloughs and other drainage courses
<input type="checkbox"/>	<input type="checkbox"/> b. Lakes, ponds, marshes, or "wet" meadows
<input type="checkbox"/> A	<input type="checkbox"/> c. Beaches
<input type="checkbox"/> A	<input type="checkbox"/> d. Sand dunes
<input type="checkbox"/> A	<input type="checkbox"/> e. Other - specify _____
<input type="checkbox"/> A	11. Historical buildings or known archaeological or paleontological resources
<input type="checkbox"/> A	12. Land use and buildings on adjacent parcels, and approximate distances to closest property lines
FOR LOT LINE ADJUSTMENT PLOT PLANS ONLY	
<input type="checkbox"/> A	13. Proposed new lines and lines to be eliminated (show lines to be eliminated as dashed)
<input type="checkbox"/> A	14. Areas (in square footage or acreage) of the initial and resulting parcels

FOR TENTATIVE SUBDIVISION MAPS ONLY	
<input type="checkbox"/> A	16. Approximate dimensions and areas of all proposed lots
<input type="checkbox"/> A	17. A statement that "All easements of record are shown on the tentative map and will appear on the recorded subdivision map"
<input type="checkbox"/> A	18. Contour lines (at _____ intervals)
<input type="checkbox"/> A	19. For major subdivisions (5 or more parcels): proposed drainage improvements, details of any grading to be performed, approximate radii of all roadway curves, areas for public use, and typical sections of all streets, highways, ways and alleys
<input type="checkbox"/> A	20. Names and assessor's parcel numbers of all contiguous ownerships

NOTE: THE SUBMITTAL OF INCOMPLETE OR ILLEGIBLE PLOT PLANS OR TENTATIVE MAPS WILL CAUSE DELAYS IN THE PROCESSING OF YOUR APPLICATION

Mitigation and Remediation Fund
Serendipity Road Improvements
Applicant: Serendipity Associates, Inc. Tina Gordon
APN 218-091-007

Scope of Work

The project will be completed by Lewis Land Development, Contractors State License Board #1012107. The project will be completed during the dry season between June 1 and October 15, 2022. The project bid is good for sixty days from October 15, 2021. Culvert prices have been increasing approximately 5-10% on a regular basis.

Crossing #2: The crossing is located on a cobble/gravel-bedded Class II watercourse that flows through a 60-ft long, 36 inch corrugated plastic pipe that is in good condition. The pipe is set nearly at grade (3 ft drop to channel) and has an armored inlet and unarmored outlet. There are approximately 500 cubic yards of fill in the crossing road prism. The stream channel is 5 feet wide. The channel immediately upstream of the culvert is lined with concrete. The existing pipe needs to be replaced with a 60 foot long, 72 inch corrugated metal pipe that is set at grade. (See attached CAD plan) The approaches to the crossing (40 feet on each side) shall be rocked.

Crossing #3: The crossing is located on a cobble/gravel-bedded Class III watercourse that also receives overflow water from a pond on the property. The culvert at this site is a 20 foot long, 12 inch corrugated metal pipe with a shotgun outlet and has failed due to excessive rust. The pipe has an unarmored inlet and outlet. There are approximately 13 cubic yards of fill in the crossing road prism. The stream channel is 1.5 feet wide. The pipe will be replaced with a 30 foot long 24 inch corrugated metal pipe, set at grade and will have armoring at the inlet and outlet according to general culvert upgrade specifications (Attached).

Crossing #5: The crossing is located on a gravel-bedded Class III watercourse. The culvert is a 40 foot long, 18 inch corrugated metal pipe on a Class III watercourse that has failed due to having a crushed inlet and a horizontally-angled downspout. The horizontal alignment of the downspout has resulted in erosion of road fill. It has an unarmored inlet and outlet and is set at grade. There are approximately 130 cubic yards of fill in the crossing road prism. The channel upstream of the corrugated metal pipe is approximately 2 feet wide.

The existing corrugated metal pipe needs to be replaced with a 50 foot long, 36 inch corrugated metal pipe that is set at grade, aligned to the channel, and have the inlet and outlet armored. The approaches to the crossing shall be rocked according to general culvert upgrade specifications (Attached).

Crossing #6: This crossing is located on a cobble/gravel-bedded Class II watercourse. The culvert is a 30 foot long, 36 inch corrugated metal pipe in fair condition. The pipe has a shotgun outlet that is sitting above two previously failed culverts. There is approximately 180 cubic yards

of fill in the crossing road prism. There is erosion occurring along the near-vertical right (looking downstream) bank. The crossing is located on a steep segment of road and has significant diversion potential. The channel upstream of the pipe is approximately 5 feet wide.

It is recommended that a 60 foot long, 60 inch corrugated metal pipe replace the existing one. The pipe should be set at grade and have the inlet and outlet armored. The uphill approach to the crossing shall be rocked and outsloped to drain onto the hillslope. The road at this location is too steep for installation of a critical dip to eliminate the diversion potential. Therefore, the road shall be rocked (70 feet on each side) such that there is a 1-2 percent outslope, which will allow for any diverted water to sheet off into the channel. The outboard berm on the downhill side of the crossing will be removed and the slope below the road will be covered with 1 to 2 foot rock to minimize erosion. (See attached CAD plan)

Crossing #8: Decommission 18-inch culvert. Each side of the decommissioned crossing will be sloped back to a 2:1 (horizontal: vertical) slope, channel stabilized with rock, and revegetated with the native vegetation that are located in the immediate vicinity.

Serendipity Road Improvements
Applicant: Serendipity Associates, Inc., Tina Gordon
APN 218-091-007
Schedule for Completion

Milestone	Start Date	End Date
Detailed Project Scoping	March 1, 2022	March 30, 2022
Bidding and Contracting	April 1, 2022	April 30, 2022
Project Ground-Breaking	July 1, 2022	
Project Completion		September 1, 2022
Monitoring	July 1, 2022	Ongoing

Five-Year Erosion Control Plan

Project Management

Before and during the project best practices will be applied to ensure minimal disturbance to the waterway and local habitat.

- Work will be completed prior to the start of any rain that causes overland flow across or along the disturbed surface.
- Within 100 feet of a watercourse or lake, the traveled surface of roads will be treated to prevent waterborne transport of sediment and concentration of runoff that results from operations.
- The treatment for disturbed areas within 100 feet of a watercourse including (1) areas exceeding 100 contiguous square feet where operations have exposed bare soil, (2) road cut banks and fills, and (3) any other area of disturbed soil that threatens to discharge sediment into waters in amounts that will negatively affect the quality and beneficial uses of water, shall be grass seeded and mulched with straw.
 - Grass seed shall be applied at a rate exceeding 100 pounds per acre.
 - Straw mulch shall be applied in amounts sufficient to provide at least 2-4 inch depth of straw with minimum 90% coverage.
 - Slash may be substituted for straw mulch provided the depth, texture, and ground contact are equivalent to at least 2-4 inches of straw mulch.
 - Any treated area that has been subject to reuse or has less than 90% surface cover shall be treated again prior to the end of operations.
- Care will be taken not to unnecessarily disturb the native channel outside of the identified areas.
- Fill to be permanently removed will be stored in designated locations with no risk of sediment delivery.
- All disturbed areas where sediment delivery from surface erosion processes is feasible will be seeded and mulched to reduce surface erosion and transport processes.
- All disturbance associated with this project will be limited to the road and immediately adjacent channel reaches as necessary to improve road drainage, stormproof the crossings, and prevent sediment delivery to watercourses.
- Any spoils generated during construction will be used for road treatments, such as shaping, or stored in a stable location and mulched to prevent surface erosion.
- The stream crossing will be treated according to standards provided in the “Handbook for Forest, Ranch and Rural Roads” (Weaver, Weppener and Hagans, 2015) and the California Salmonid Stream Habitat Manual, Part X (Weaver, Hagans and Weppner, 2006).

Roads

- Sidecast or fill material extending more than 20 feet in slope distance from the outside edge of a roadbed, which has access to a watercourse or lake, shall be treated with slope stabilization measures.

- All roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following operations and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within 100 feet of a watercourse, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning or a flash flood watch.

Streamside Management Area

- Within 100 feet of a watercourse, where the undisturbed natural ground cover cannot effectively protect beneficial uses of water from sediment introduction, the ground shall be treated with slope stabilization measures and timed as above.
- Except for culvert repairs and maintenance, no driving or operating of vehicles or equipment will occur within the riparian setbacks or within waters of the state unless authorized.

Maintenance

- Work will only occur during the period of June 15 through October 15 (or first significant rainfall) to limit and avoid impacts to aquatic habitat and salmonids.
- Vegetation will only be removed from sites where it is growing on anthropogenically placed fill material, where erosion is likely to deliver to active watercourses, or where necessary for the implementation of effective storm-proofing treatments.
- All disturbed areas capable of delivering sediment to a watercourse will be seeded with barley or wheat based erosion control seed not containing Annual or Perennial Ryegrass and mulched with weed free straw at a rate no less than 50 lb/acre of seed and 4,000 lb/acre of straw.

Monitoring

To avoid risk of future stream diversions and erosion, monitoring will be implemented to reduce the risk of stream crossing failures caused by excessive flow, culvert plugging, overtopping, washout and stream diversion.

- Regular, periodic, and storm inspections and maintenance, including removal of debris.
- Ongoing monitoring for proper drainage during the rainy season.
- Installation of debris barriers.
- Monitor culverts for rusting, leaking, separated or other signs of impending failure.
- Look for evidence of plugging and overtopping, such as depositional terraces or a delta of sediment upstream of the pipe inlet.
- Look for ponding, damage to inlets, including crushed or ripped inlets.
- Monitor crossing for slope failure from one or both sides of the channel.

Serendipity Road Improvements
 Applicant: Serendipity Associates, Inc., Tina Gordon
 APN 218-091-007
 Project Budget

Budget Item	Grant	Other Funds
Permit Fees		
401 Certification	\$2,066.00	
LSAA		\$12,623.00 Serendipity Associates
Consultant and Professional Fees	\$14,500.00	\$20,000.00 Serendipity Associates
Materials	\$34,800.00	
Equipment	\$38,060.00	
Labor	\$10,000.00	
Total	\$99,426.00	\$32,623.00
Total Requested	\$99,426.00	

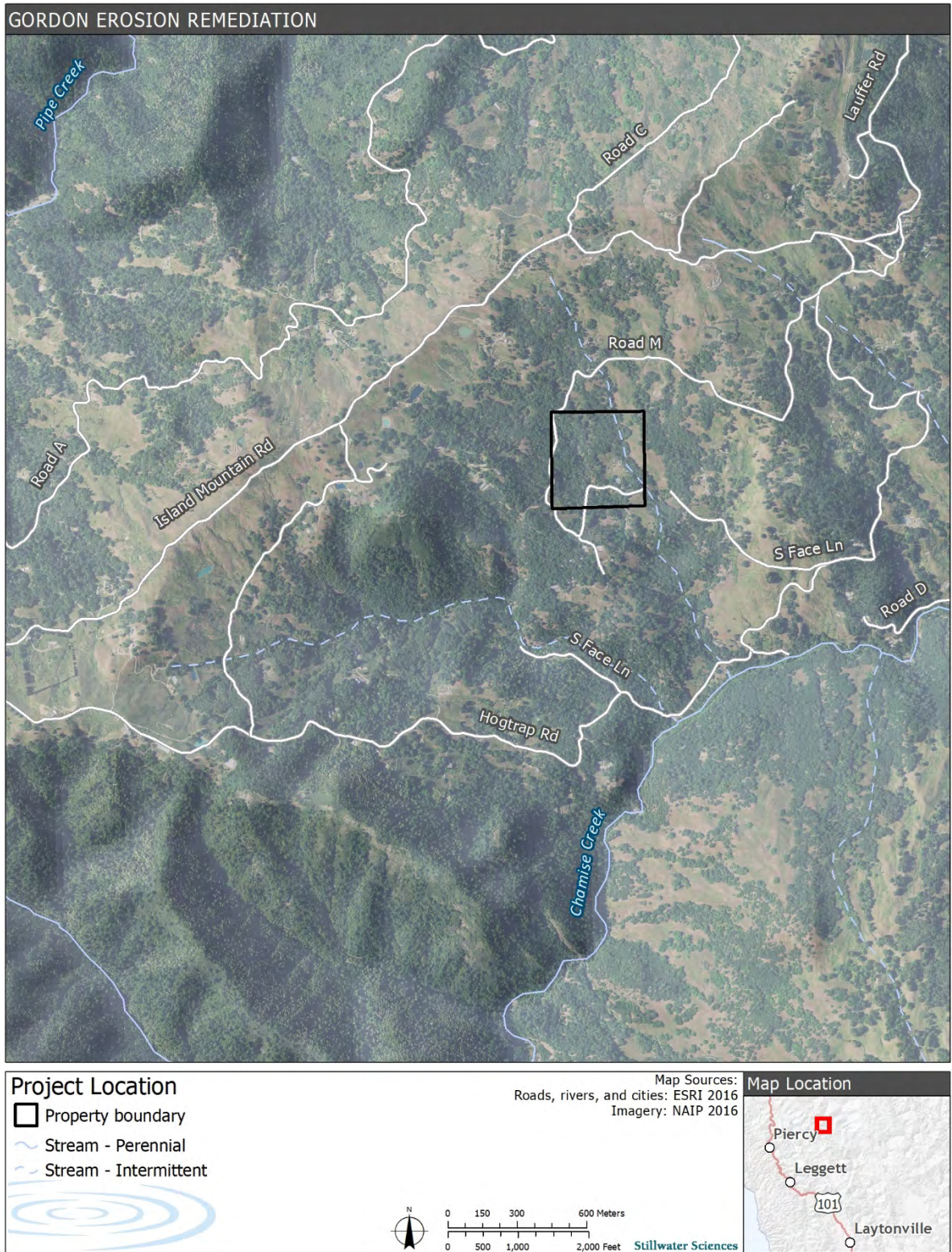


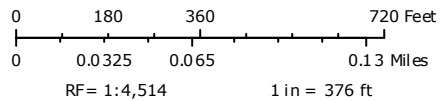
Figure 1. Project location map for APN 218-091-007.



Gordon Topo Map

Humboldt County Planning and Building Department

- | | | | |
|---------------------------|---------------------------|----------------------------------|------------------|
| Highways and Roads | — Private or Unclassified | — Subsurface | — Major Interval |
| — Principal Arterials | — Major River or Stream | - - - City Boundary | |
| — Minor Arterials | Blue Line Streams | — Counties | |
| — Major Collectors | — Perennial 1-3 | — Parcels (no APN labels) | |
| — Minor Collectors | — Perennial >4 | Topographic Contours 40ft | |
| — Local Roads | — Intermittent | — Minor Interval | |

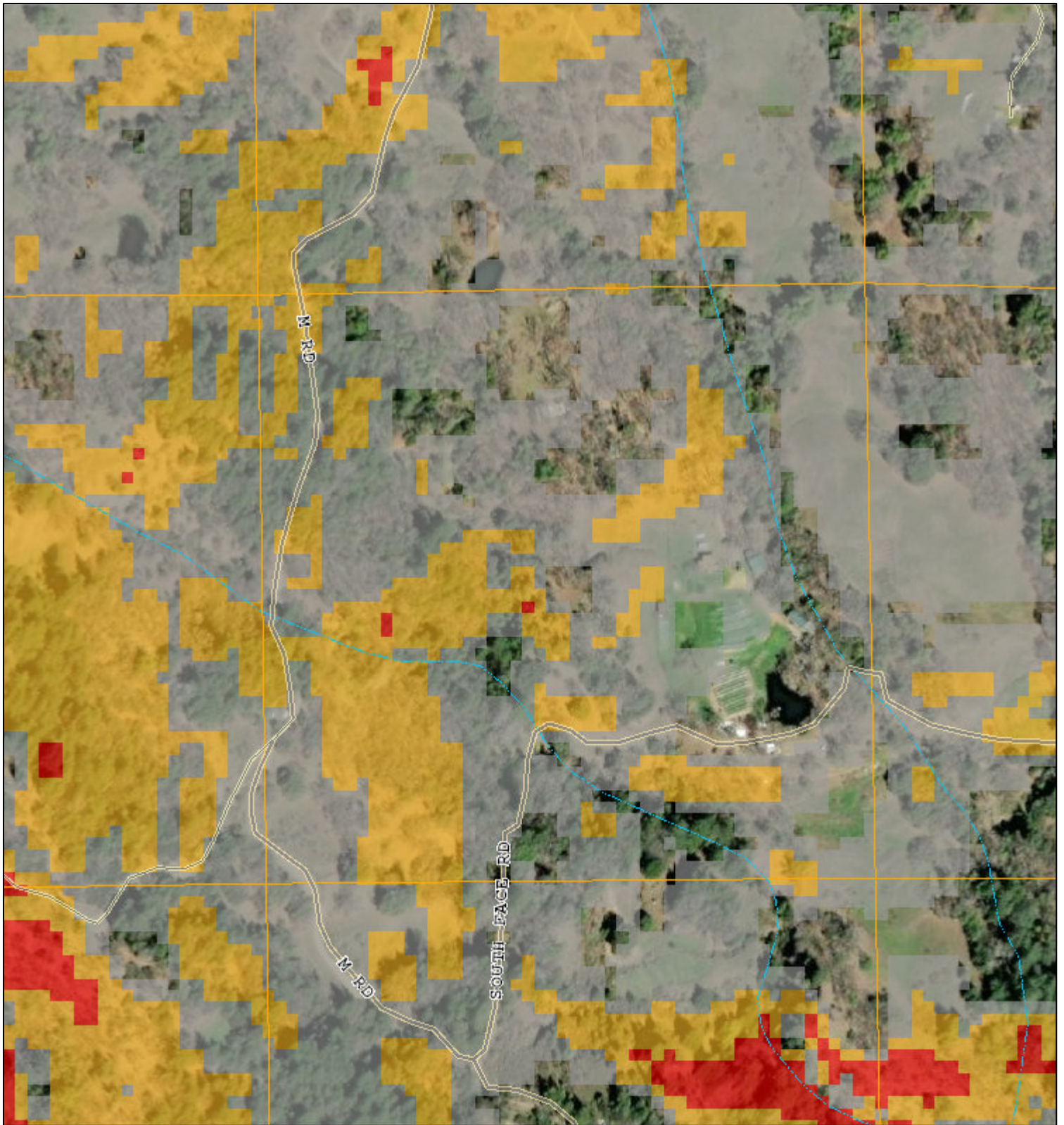


Printed: October 11, 2021 Web AppBuilder 2.0 for ArcGIS

Map Disclaimer:
 While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

Source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Humboldt County GIS, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FRAP, FEMA, USGS, ESA, CGS

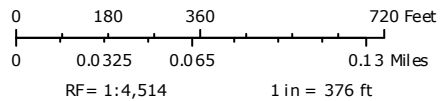
Figure □ □ □ □ □ M □ □



Gordon Slope Map

Humboldt County Planning and Building Department

- | | | |
|---------------------------|---------------------------|---------------------------|
| Highways and Roads | — Private or Unclassified | — Intermittent |
| Principal Arterials | — Major River or Stream | — Subsurface |
| Minor Arterials | Blue Line Streams | — City Boundary |
| Major Collectors | — Perennial 1-3 | — Counties |
| Minor Collectors | — Perennial >4 | — Parcels (no APN labels) |
| Local Roads | | — Awareness Floodplain |



Printed: October 11, 2021

Web AppBuilder 2.0 for ArcGIS

Map Disclaimer:
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Source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Humboldt County GIS, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FRAP, FEMA, USGS, ESA, CGS

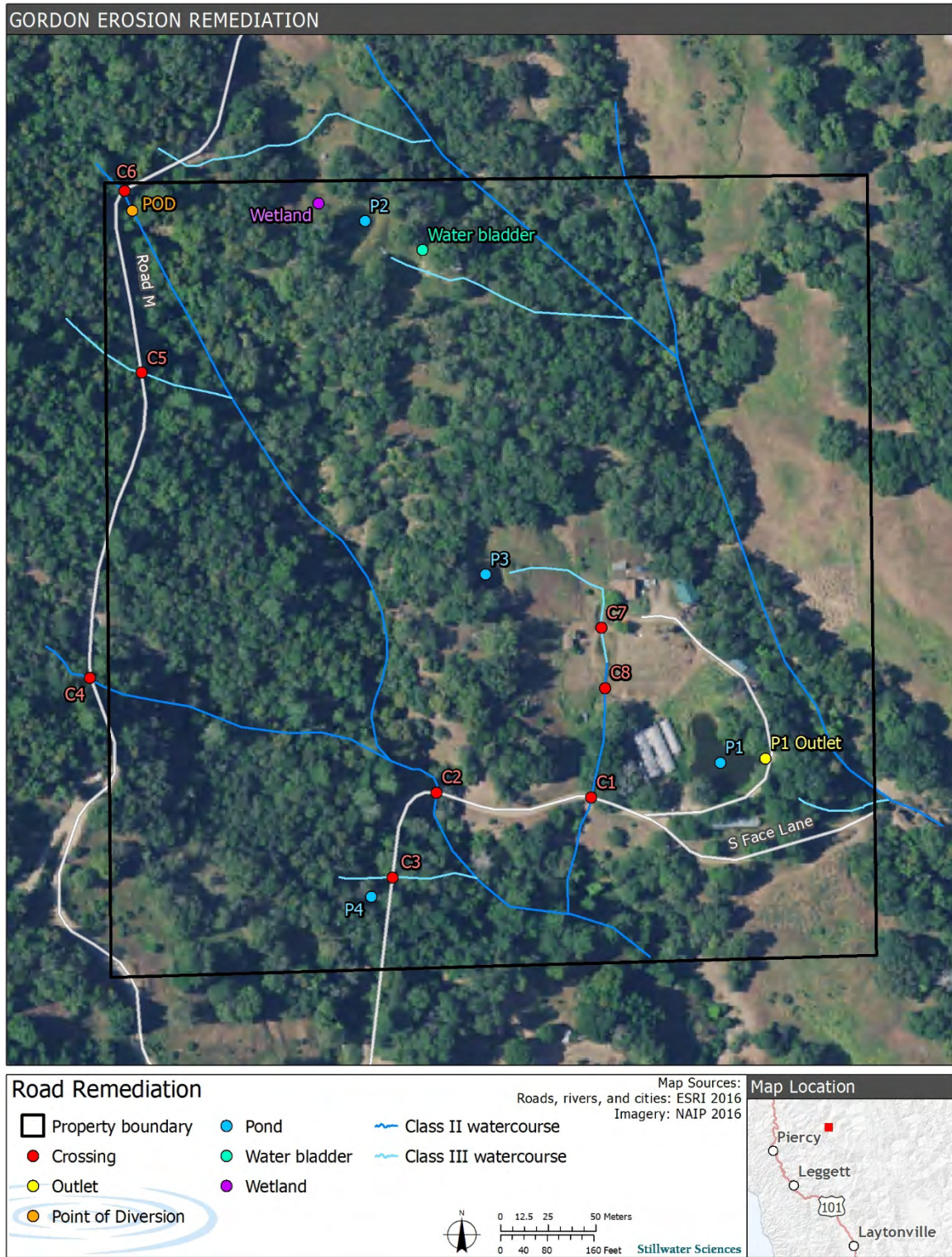


Figure 2. Parcel and road remediation locations.

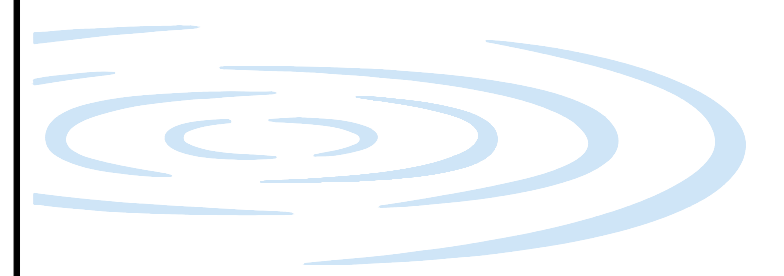
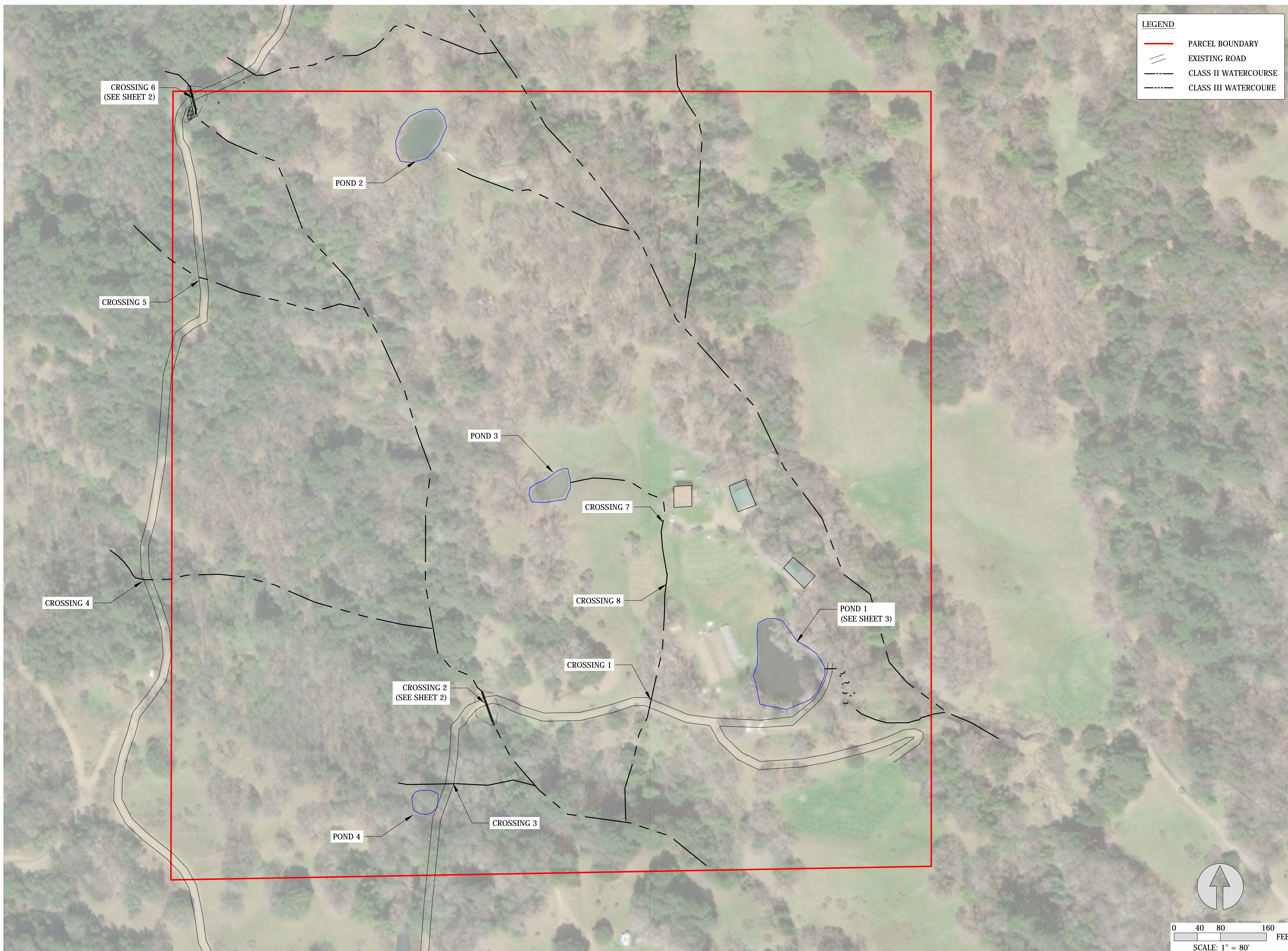
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GORDON PROPERTY IMPROVEMENTS

HUMBOLDT COUNTY, CA

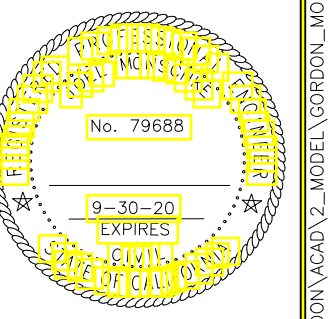
Stillwater Sciences

850 G STREET SUITE K
ARCATA, CA 95521 P: (707) 822-9607



PROJECT NUMBER: 656.08
SCALE: AS NOTED
DATE: 4/10/19

DESIGN: JM
DRAWN: RT
CHECKED: X
APPROVED: X



OVERVIEW

FILE: 656.08 - HOLLIE - HALL - LISA 656.08 - GORDON - 4/10/19 - MICHAEL GORDON - MODEL.DWG | PLOT DATE: 4/15/2019 | PLOT STYLE: sst.dwt | LAST SAVED: 4/15/2019 | DRAWING IS NOT TO SCALE - ADJUST ACCORDINGLY



Photo A-3. C2 inlet.



Photo A-4. C2 outlet.



Photo A-5. C3 inlet.



Photo A-6. C3 outlet.



Photo A-7. C5 inlet.



Photo A-8. C5 outlet.



Photo A-9. C6 inlet.



Photo A-10. C6 outlet.



Photo A-13. C8 inlet.

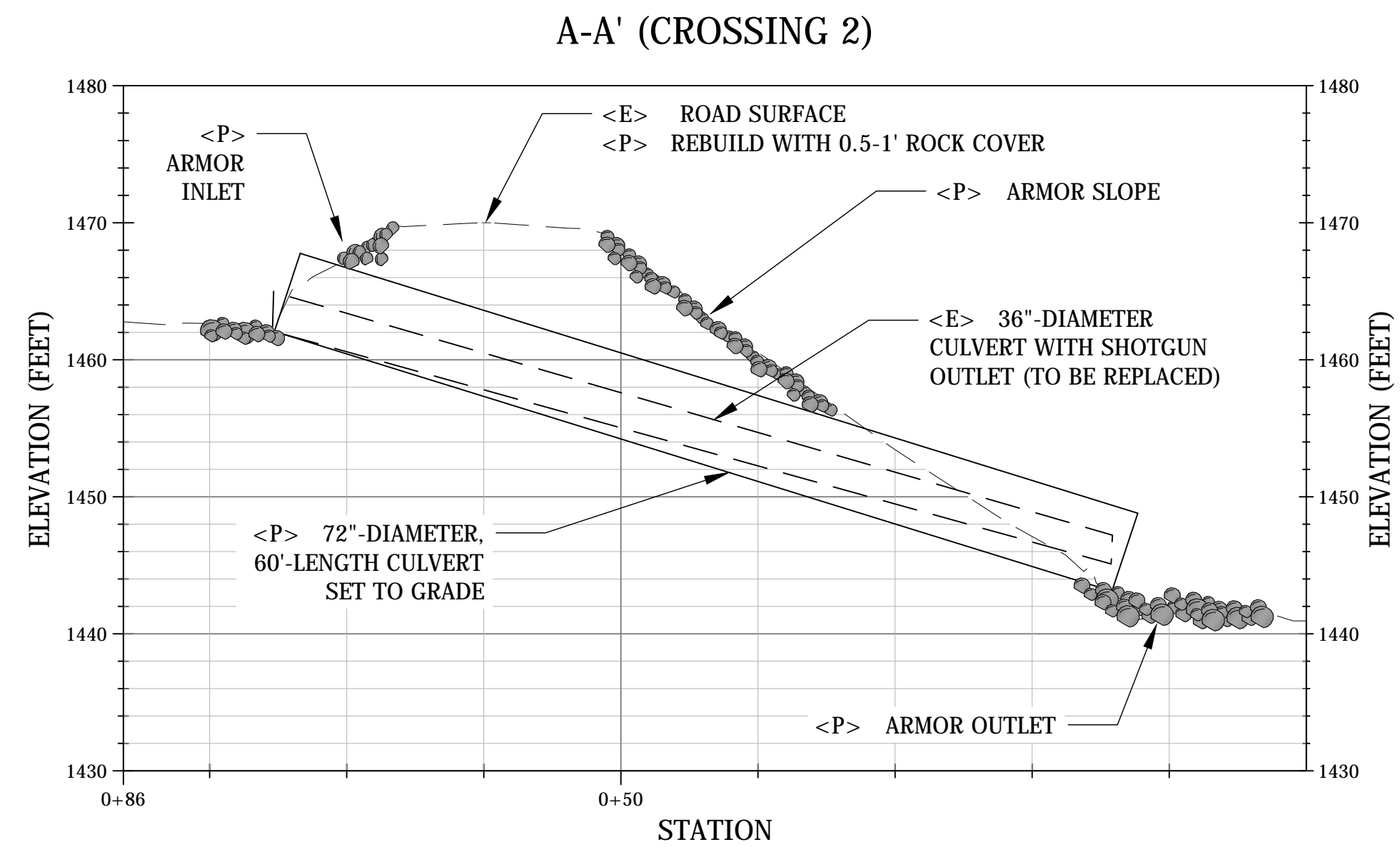
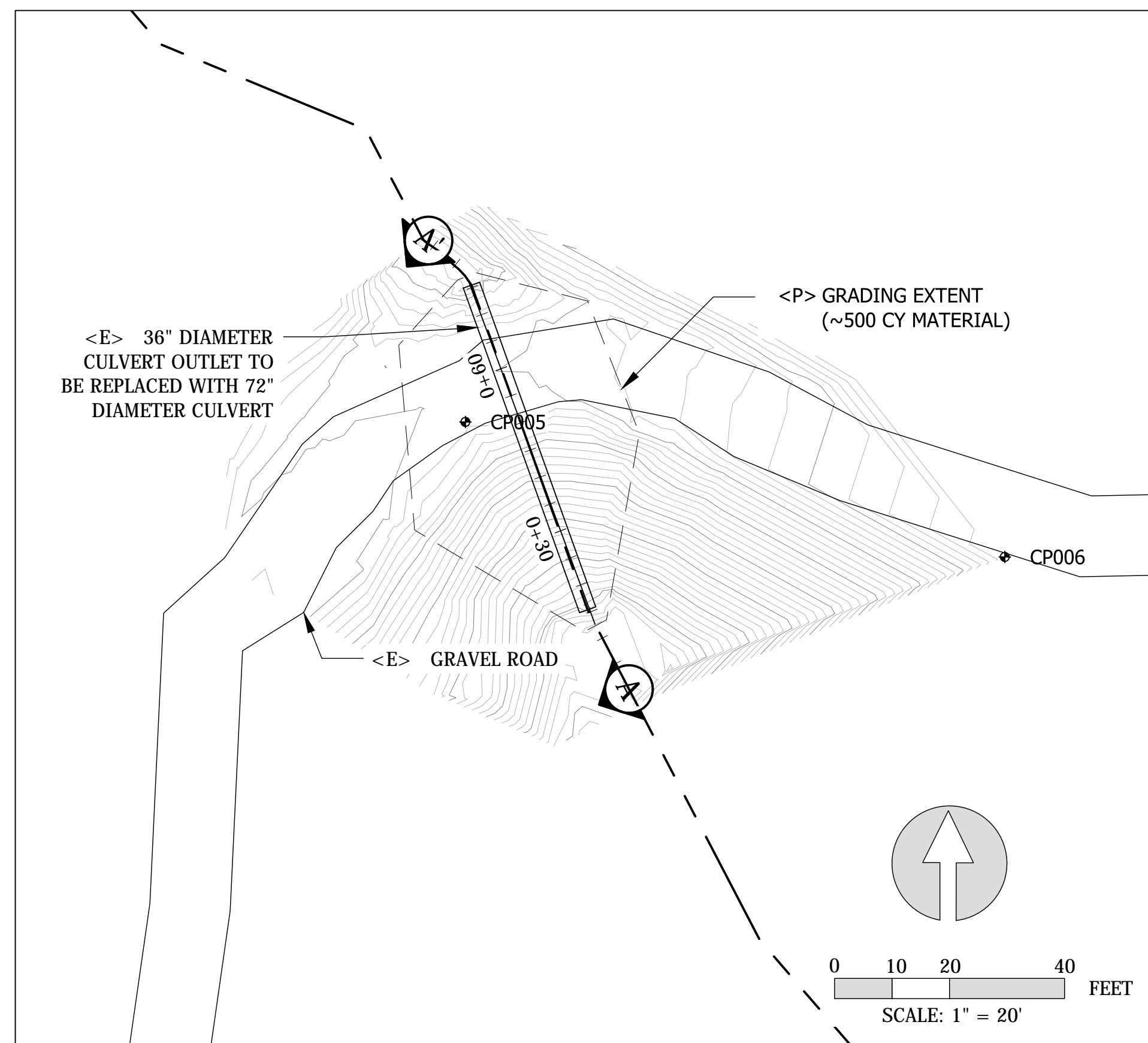


Photo A-14. C8 outlet.



Photo A-15. Pond 1.

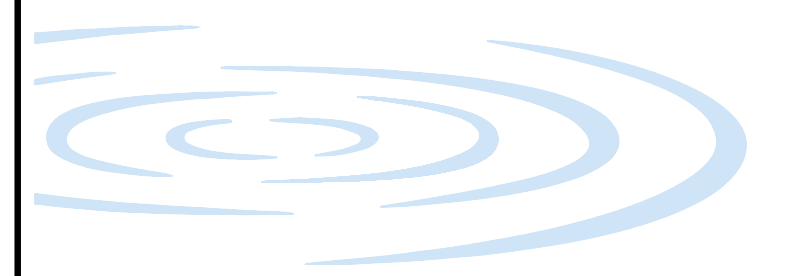
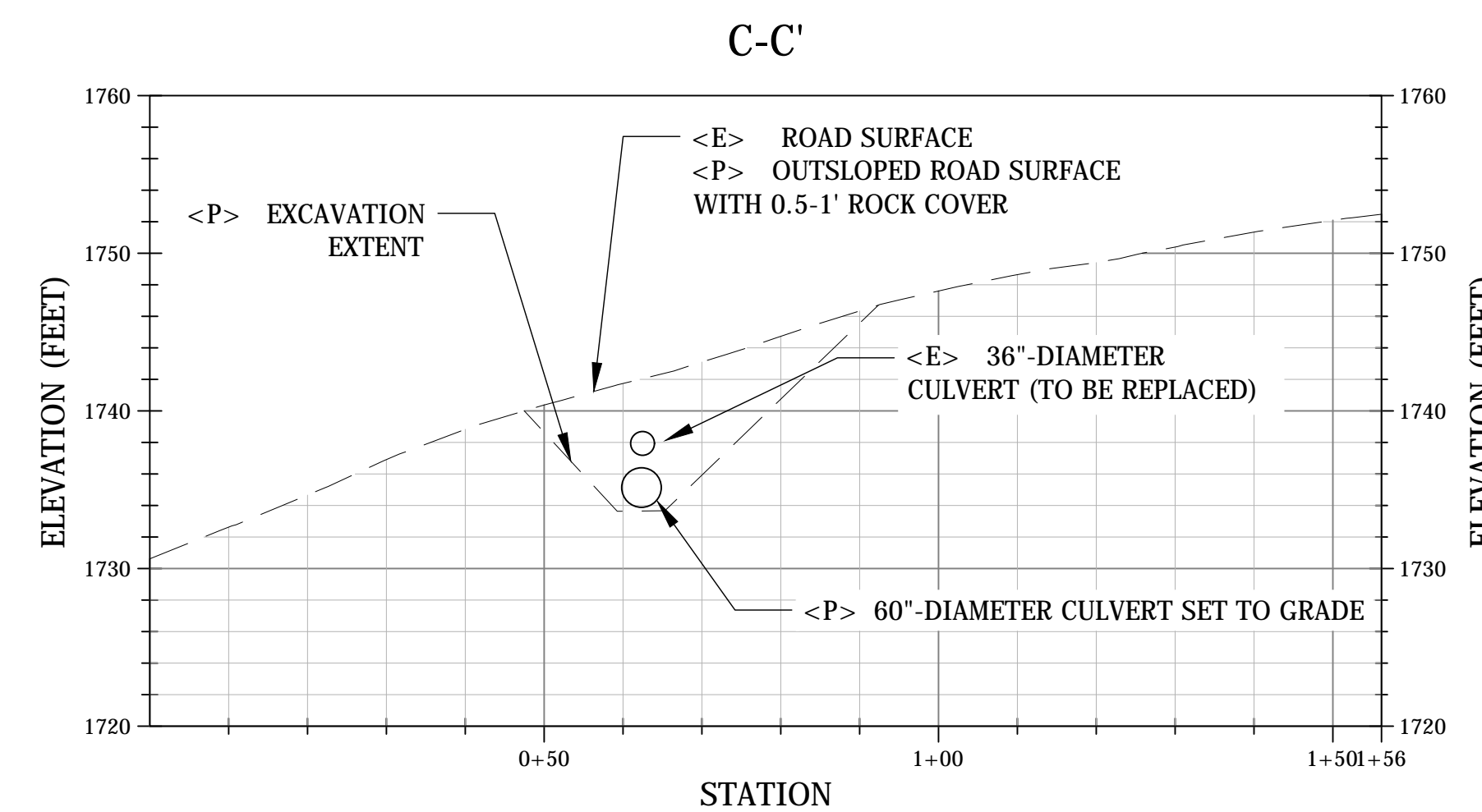
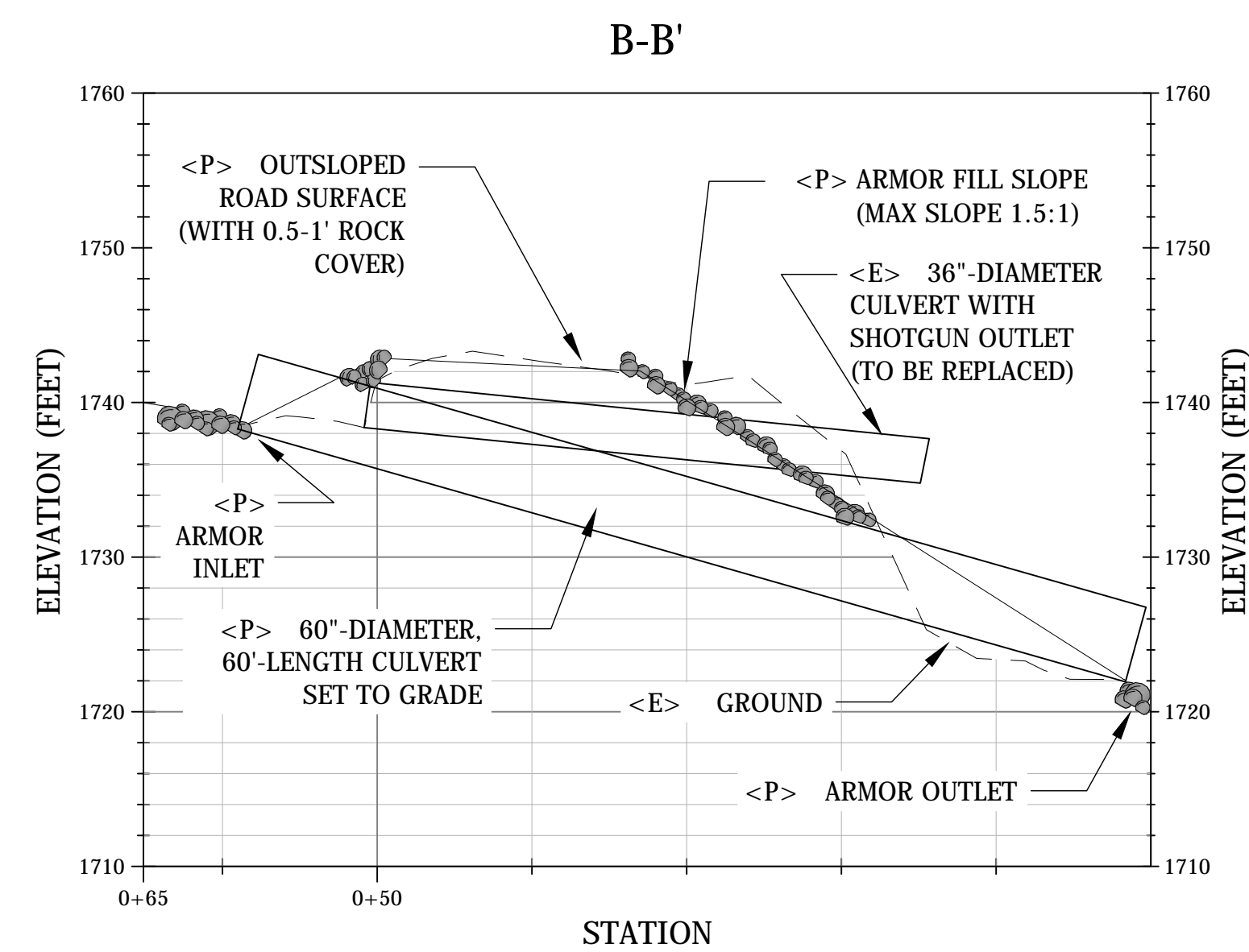
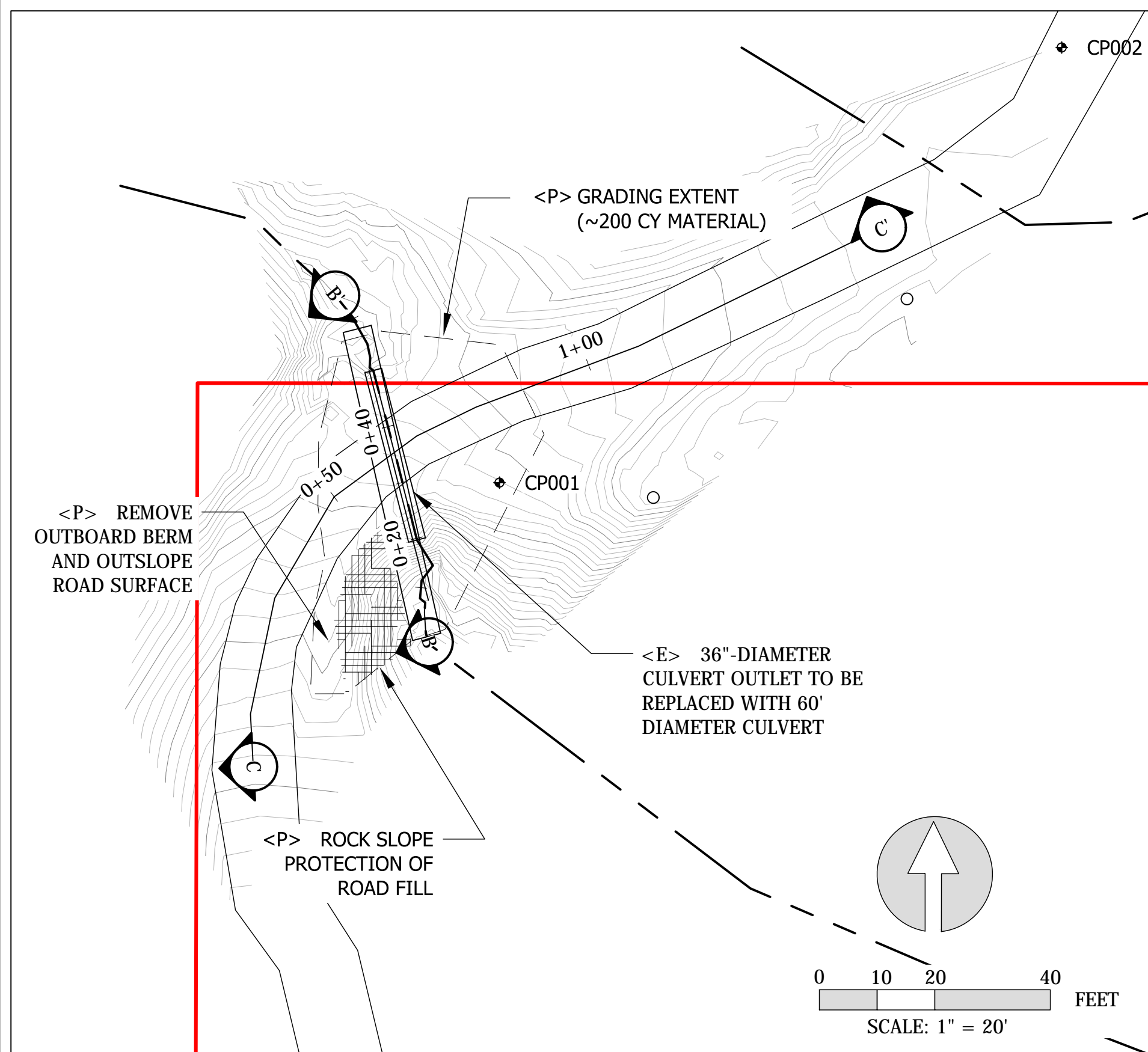
CROSSING 2 CULVERT REPLACEMENT



LEGEND

- EXISTING MAJOR CONTOUR (5')
- EXISTING MINOR CONTOUR (1')
- PARCEL BOUNDARY
- EXISTING ROAD
- CLASS II WATERCOURSE
- CLASS III WATERCOURSE

CROSSING 6 CULVERT REPLACEMENT



PROJECT NUMBER: 656.08

SCALE: AS NOTED

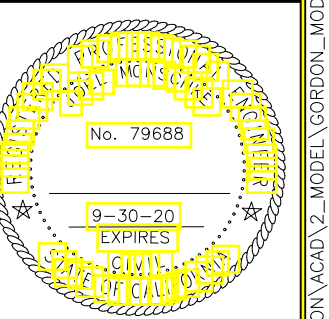
DATE: 4/10/19

DESIGN: JM

DRAWN: RT

CHECKED: X

APPROVED: X



CROSSINGS 2 & 6

SHEET 2 OF 3

GORDON PROPERTY IMPROVEMENTS

HUMBOLDT COUNTY, CA

Stillwater Sciences

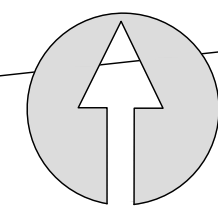
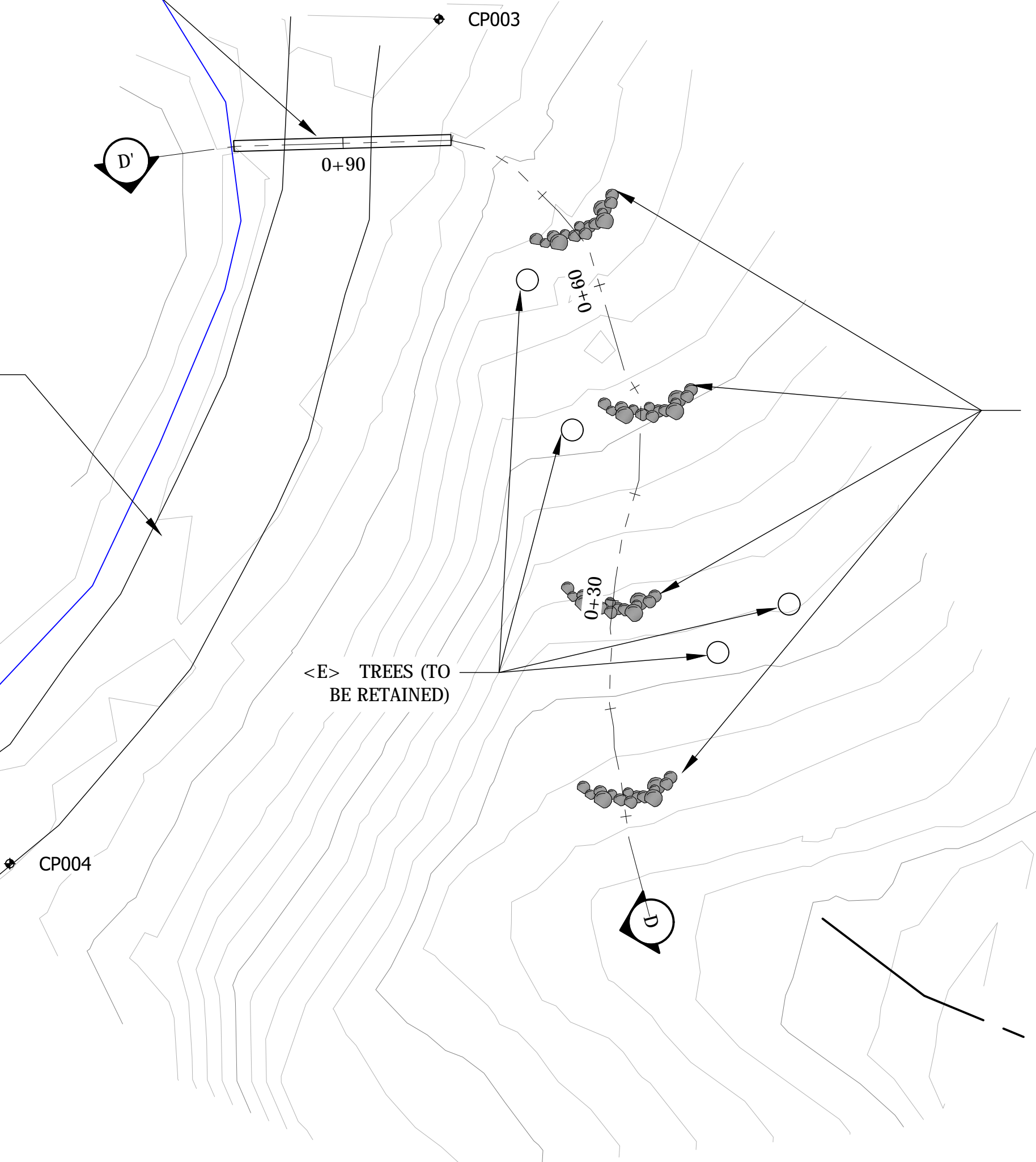
850 G STREET SUITE K
ARCATA, CA 95521 P: (707) 822-9607

<E> 1" DIAMETER CULVERT
OUTLET TO BE REPLACED
WITH 18"-DIAMETER
CULVERT

<P> ELEVATE AND ROCK
ROAD SURFACE

<P> ARMORED
PERCOLATION
BASINS

<E> TREES (TO
BE RETAINED)



0 5 10 20
FEET
SCALE: 1" = 10'

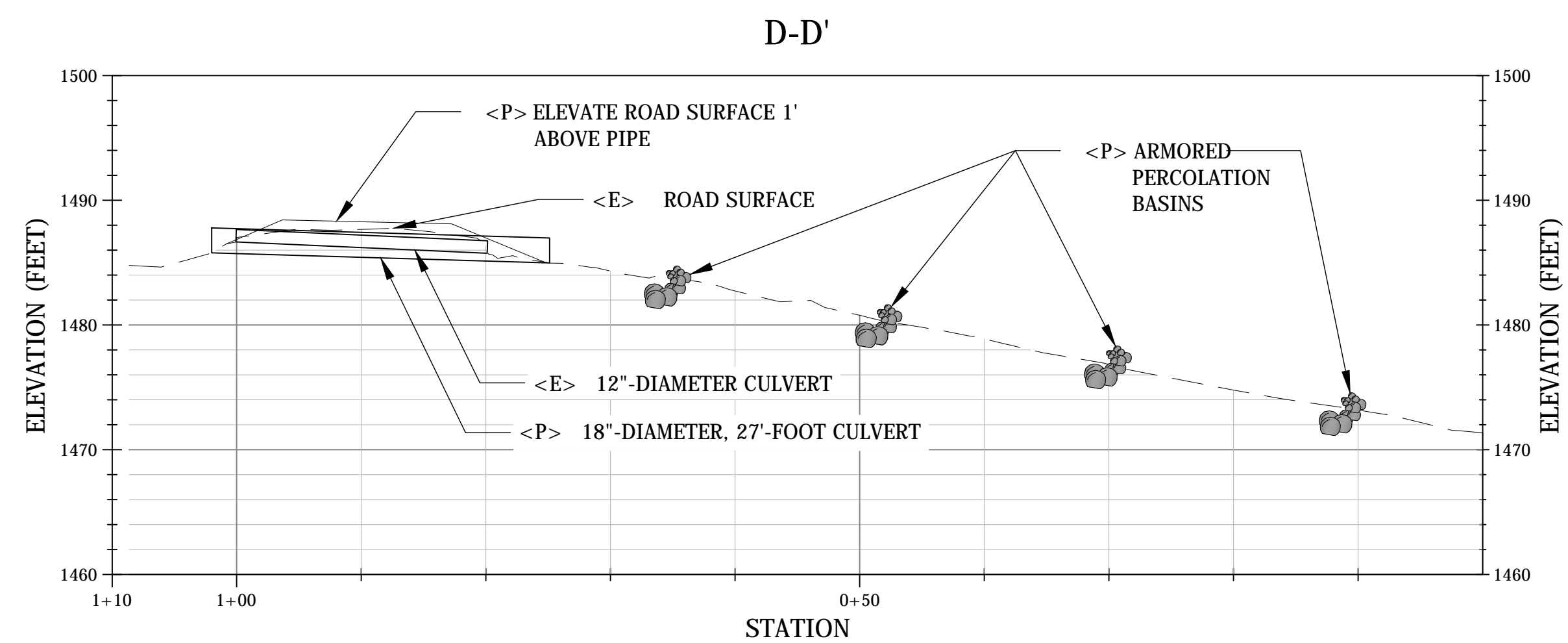


Figure □

LEGEND	
	EXISTING MAJOR CONTOUR (5')
	EXISTING MINOR CONTOUR (1')
	PARCEL BOUNDARY
	EXISTING ROAD
	CLASS II WATERCOURSE
	CLASS III WATERCOURSE

PROJECT NUMBER: 656.08

SCALE: AS NOTED

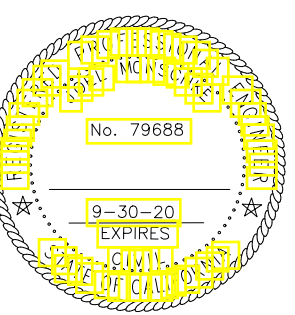
DATE: 4/10/19

DESIGN: JM

DRAWN: RT

CHECKED: X

APPROVED: X



POND 1

SHEET 3 OF 3

IF BARS DOES NOT MEASURE 1" DRAWING IS NOT TO SCALE - ADJUST ACCORDINGLY
 PLOT STYLE
 PLOT DATE: 4/15/2019
 LAST SAVED: 4/15/2019

4.1.8 Site C8

C8 is located on a Class II watercourse that contains wetland plants (e.g. Juncus). The culvert is a 20-ft long, 18-in CPP that is set below grade (based upon sediment deposits in pipe) and has an unarmored inlet and outlet. There are approximately 11 yd³ of the fill in the crossing. The channel upstream of the crossing is approximately 2.5 ft wide.

The seasonal road containing the culvert is not used for the operations. Therefore, the crossing will be decommissioned. Each side of the decommissioned crossing will be sloped back to a 2:1 (horizontal:vertical) slope, channel stabilized with rock, and revegetated with the native wetland plants that are located in the immediate vicinity.

Table 3. Summary of rock needed for each culvert crossing needing a LSAA.

Site ID	Outlet / inlet armor rock size range (ft)*	Total outlet / inlet rock needed (cubic yards)	Road surface rock size*	Total road surface rock needed (cubic yards)	Total rock volume (cubic yards)
C2	1 to 2	30	4-inch minus	30	60
C3	1 to 2	5	4-inch minus	10	15
C5	1 to 2	8	4-inch minus	15	23
C6	1 to 2	21	4-inch minus	50	71
C8	0.5 to 1	2	4-inch minus	0	2

* Approximate rock size to weight conversion:

- 4-in minus rock (1 cy = 1.5 tons)
- 1- to 2-ft rock = 0.25 to 0.5 ton

4.2 General Culvert Upgrade Specifications

The following specifications should be followed when constructing the culverts:

- The heavy equipment operator should separate out inlet and outlet armoring and road surface rock from other fill during excavation operations for those crossings that will be reusing existing material.
- Remove existing culvert (if applicable) and excavate a trench at the original channel gradient to place the culvert. Note that on steep channels (as seen on this project), culverts may be installed at a more gentle slope with extensive rock armoring placed under the outlet for channel armoring and energy dissipation as shown in Figure 6.
- If extensive rock armoring is necessary downstream of the culvert, the rock should be placed prior to the installation of the culvert to allow for best equipment access. Begin to place rock from the downstream extent of the culvert’s spillway, with the first row of rock firmly keyed into the bench at the bottom of the spillway.
- Upon completion of the spillway near to the elevation of the culvert outlet, finalize the trench where the culvert will be placed. The base of the trench should be well compacted (minimum 90% relative compaction [RC]) and constructed at an even gradient, with a minimum width of 4 feet greater than the culvert diameter to allow for compaction along the sides of the culvert.
- Place culvert in the trench. Compaction around the culvert should occur in 6-in to 1-ft lifts using a Wacker or other approved method. Soils should be wetted or dried for maximum compaction (minimum 90% RC).

- After culvert is covered with fill, begin rebuilding road prism in 1-ft lifts. Compaction should occur with a Sheepsfoot or other approved method.
- Place final rock armoring around culvert outlet, culvert inlet, and upstream channel as described in Figure 6 and any available site-specific specifications. A critical dip will be constructed over new fill or at a location identified in attached designs. The dip will be constructed of rock armoring that extends from the top of the culvert to the road surface.
- Ensure that road surface drainage is controlled with rolling dips upslope of the crossing and armored inboard ditches as necessary.
- Place a minimum of 6 in of 4-in minus road rock on all disturbed areas adjacent to the crossing.
- All sites are subject to changes based on field conditions and/or as directed by engineer or watershed scientist.

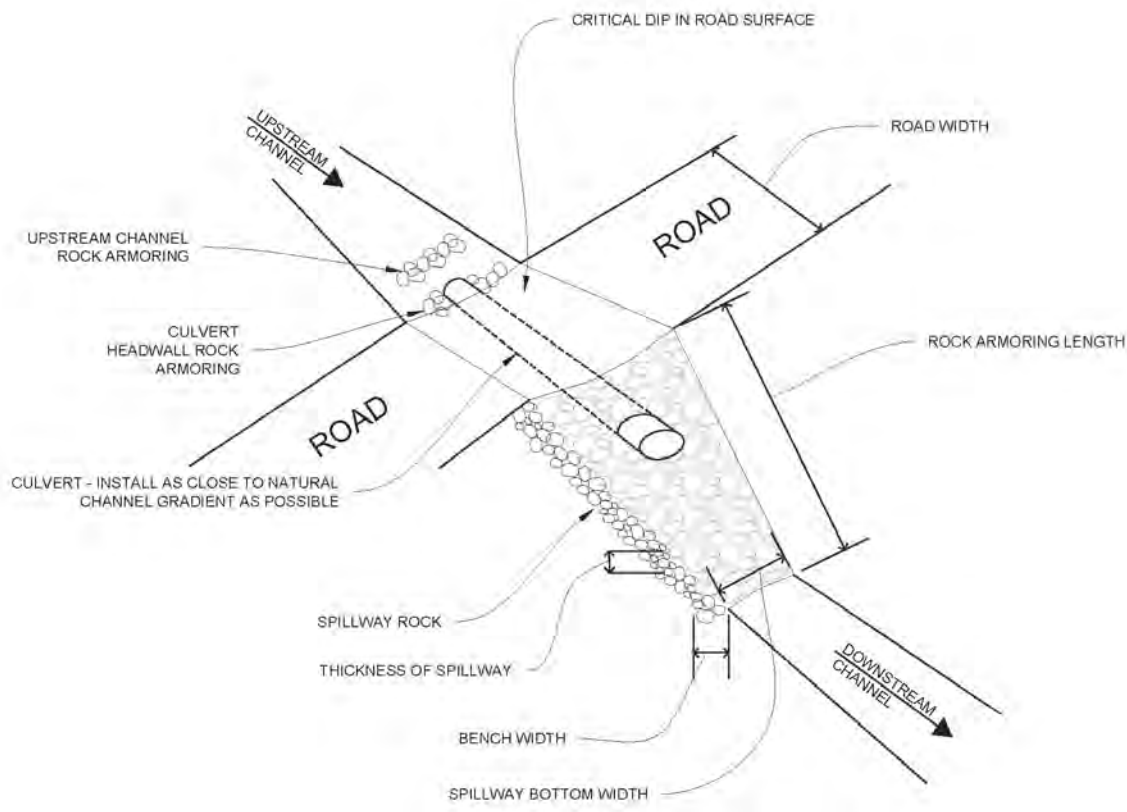


Figure 6. Culvert installation schematic.

5 WATER USE AND STORAGE

5.1 Pond 1

Pond 1 is located in the southwest portion of the property and has been in place since at least 1993, according to Google Earth imagery (Figures 2 and 3). It has a surface area of approximately 0.12 acres, is about 15 ft deep at the center, and is not connected to waters of the State. The pond

From: [Jessica](#)
To: [Adler, Elanah](#); [Richardson, Michael](#); [Margro Advisors](#)
Subject: Serendipity Associates, Inc. - Mitigation and Remediation Grant Fund Proposal
Date: Friday, October 29, 2021 1:26:51 PM
Attachments: [Mitigation Fund Application - Serendipity Gordon.pdf](#)
[Gordon Grant Maps & Figures.pdf](#)

Dear Michael and Elanah,

I am pleased to present the attached grant proposal on behalf of Tina Gordon, Serendipity Associates, Inc.

Please feel free to reach out to me with questions or comments.

Thank you,

Jessica

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Jessica
Project Manager
Margro Advisors

1-707-500-2420