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Staff:	Melissa B. Kraemer
Staff Report:	May 30, 2008
Hearing Date:	June 12, 2008
Commission Action:	

STAFF REPORT:

PERMIT AMENDMENT

APPLICATION NUMBER:	**1-86-200-A4**
APPLICANT:	**Humboldt County Public Works Department**
PROJECT LOCATION:	The overall project is located along portions of Old Arcata Road/Myrtle Avenue between Eureka and Arcata, Humboldt County. CDP Amendment No. 1-86-200-A4 affects an approximately 3-mile stretch of Old Arcata Road between PM 3.77 and PM 6.75 (approximately Freshwater Corners to just south of Bayside Cutoff).
DESCRIPTION OF PROJECT PREVIOUSLY APPROVED:	Reconstruction and widening of 7.37 miles of Old Arcata Road/Myrtle Avenue to a roadway having two 12-foot-wide traffic lanes, two 4-foot wide paved shoulders, and a 3-foot wide sloped unpaved shoulder in most locations, and conversion of 0.75 acres of upland to farmed wetland or freshwater marsh.
DESCRIPTION OF CURRENT AMENDMENT REQUEST	Amend the approved project description to (1) relocate an approximately 220-foot-long channelized section of Cochran Creek approximately 20 feet westward to accommodate a proposed shift in the approved road alignment; (2) realign the road section at Cox Corner

eastward from the approved alignment; (3) encase approximately 1,334 feet of an existing road drainage ditch into 1.5-ft diameter to 3-ft diameter culverts (rather than relocating the drainage ditch as originally approved); (4) remove approximately 325 trees of varying types and sizes necessary for the relocation of utility poles; and (5) improve various storm drainage facilities as necessary to meet current County standards and NOAA-Fisheries fish passage requirements.

OTHER APPROVALS:

1) U.S. Army Corps of Engineers Clean Water Act Section 404 Individual Permit No. 2000-257310 (pending)
2) North Coast Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification WDID No. 1B08045WNHU (pending)
3) Department of Fish & Game Streambed Alteration Agreement No. R1-08-0087 (pending)
4) U.S. Army Corps of Engineers File No. 2000-257310 (March 4, 2008)
5) NOAA-Fisheries Formal Consultation File No. 151422SWR98AR28 (February 28, 2003)
6) Fish & Wildlife Service Formal Consultation File No. 1-14-2001-875.1 (March 13, 2003)
7) Federal Highway Administration Categorical Exclusion (May 28, 2003)
8) Caltrans letter affirming the validity of the May 2003 CE (August 30, 2007)

SUBSTANTIVE FILE DOCUMENTS:

1) Commission CDP File No. 80-P-69 (Humboldt County Public Works Department)
2) Commission CDP File No. 1-86-200-A (Humboldt County Public Works Department)
3) Commission CDP File No. 1-86-200-A2 (Humboldt County Public Works Department)
4) Commission CDP File No. 1-86-200-A3 (Humboldt County Public Works Department)
5) Commission CDP File No. 1-89-31 (California Department of Fish & Game)
6) Commission CDP File No. 1-90-38 (Humboldt County Public Works Department)
7) *Natural Environment Study Report Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project*. Prepared by Jones & Stokes, June 30, 2001
8) *Draft Environmental Impact Report Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project*. Prepared by Jones & Stokes, August 2001 (SCN 2001052113)
9) *Final Environmental Impact Report Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project*. Prepared by Jones & Stokes, October 2001 (SCN 2001052113)
10) *Wetland Mitigation Monitoring for the Fay Slough Mitigation Bank, Humboldt County, CA.* Prepared by Humboldt County Public Works Department, March 2001
11) Humboldt County Local Coastal Program

SUMMARY OF STAFF RECOMMENDATION

On May 14, 1981, the Commission granted Coastal Development Permit No. 80-P-69 to the Humboldt County Public Works Department to reconstruct and widen 7.37 miles of Old Arcata Road/Myrtle Avenue to a roadway extending from Hall Avenue to the Arcata City limits and having two 12-foot-wide traffic lanes, two 4-foot wide paved shoulders, and a 3-foot wide sloped unpaved shoulder in most locations. The project was originally expected to take 10 years to complete. Approximately 3.5 miles of the project area was widened/ reconstructed between 1978 and 1990, when the project was put on hold due to funding constraints.

The current permit amendment request includes the following project changes: (1) relocate an approximately 220-foot-long channelized section of Cochran Creek approximately 20 feet westward to accommodate a proposed shift in the approved road alignment; (2) realign the road section at Cox Corner eastward from the approved alignment; (3) encase approximately 1,334 feet of an existing road drainage ditch into 1.5-ft diameter to 3-ft diameter culverts (rather than relocating the drainage ditch as originally approved); (4) remove approximately 325 trees of varying types and sizes necessary for the relocation of utility poles; and (5) improve various storm drainage facilities as necessary to meet current County standards and NOAA-Fisheries fish passage requirements.

The portion of the amended development affected by CDP Amendment No. 1-86-200-A3 is located along an approximately 3-mile stretch of Old Arcata Road between PM 3.77 and PM 6.75 (approximately Freshwater Corners to just south of Bayside Cutoff) (see Exhibit Nos. 1 and 2). The boundary between the Commission's area of retained permit jurisdiction and the area covered by the certified Humboldt County Local Coastal Program (LCP) bisects the project area in several locations (Exhibit No. 3). The Commission's jurisdiction over the project area extends from Stations 7+320 to 8+550 and from Stations 9+970 to 10+930 and totals approximately 44 percent of the project area (1.36 miles). The standard of review for projects located in the Commission's retained jurisdiction is Chapter 3 of the Coastal Act. Approximately 56 percent of the project area (1.76 miles; from Stations 5+900 to 7+320 and from Stations 8+550 to 9+970) occurs within an area certified under the Humboldt Bay Area Plan of the Humboldt County LCP. The standard of review that the Commission must apply to the portion of the project in these certified areas is the certified Humboldt County LCP.

The project area is located on the inland edge of the coastal zone and is distant from the ocean and Humboldt Bay. The project area traverses the lower slopes of hills, sections of diked former tidelands, and a total of five intermittent and perennial stream crossings.

The amended development would impact 3.25 acres of wetland habitat (mostly "coastal scrub wetlands" associated with roadside ditches), part of which is proposed to be mitigated in-kind, on-site (through the creation of new roadside ditches) and part of which would be mitigated off-site at the Fay Slough Wildlife Area (FSWA) wetland mitigation bank. The FSWA consists of 484 acres of mostly wetland habitat owned and managed by the California Department of Fish and Game (CDFG). In anticipation of unavoidable wetland impacts associated with the Old Arcata Road/Myrtle Avenue Widening Project and potentially other

County projects, the County, in 1990, established a wetland mitigation bank at the FSWA in agreement with CDFG (see Exhibit No. 10). The FSWA historically was tidal marsh habitat of Humboldt Bay, but at the time of acquisition by CDFG in 1990, the area was diked, partially drained, and partially filled for agricultural use (fill placement had occurred approximately 75 to 100 years prior). Under the 1990 agreement between the County and CDFG, the County agreed to remove structures, portions of old levees and road fills, and to construct approximately 500 feet of new levees for the purpose of water impoundment and management of water levels at the FSWA by CDFG. It was agreed that in exchange for the wetland acreage that would be created from restoration of historic fill sites at the FSWA, the County would receive 11.57 acres of wetland mitigation credits. The Commission issued a coastal development permit for the restoration work at the FSWA in 1989 (Exhibit No. 19), and the restoration work was conducted in 1992. In 1990 the Commission issued a permit for the Elk River Road widening project (Exhibit No. 20) authorizing the use of 0.73-acre of wetland credits at the bank as off-site, in-kind mitigation for impacts from that road widening project.

Staff recommends Special Condition No. A4-4, which would require submittal of a final wetland mitigation and monitoring plan for the development authorized by this permit amendment. The required mitigation would result in compensation for the filling of 0.72-acre of roadside ditch wetlands (primarily "coastal scrub" wetlands), which are to be mitigated on-site through the creation of new roadside ditch wetlands at a ratio of 1:1. The required mitigation also would result in off-site compensation for the filling of 2.30 acres of wetlands (1.85 acres of "coastal scrub" wetland, 0.32-acre of "coastal prairie seasonal wetland," and 0.13-acre of "freshwater marsh" wetland) at a 1:1 ratio by debiting the same area of wetland credits from the FSWA wetland mitigation bank where equivalent habitat and values have already been restored. Finally, the required mitigation would result in compensation for the filling of 0.23-acre of riparian/arboreal wetlands (at Cox Corner) either in the form of creating new (in-kind) riparian wetland habitat (either on-site or off-site) at a 4:1 ratio or (2) debiting a higher amount of mitigation credits from the FSWA wetland mitigation bank at a ratio of 8-to-1 where out-of-kind, less valuable seasonal wetland and seasonal freshwater marsh have been created.

Staff believes that with the attachment of the additional recommended special conditions requiring adherence to various construction responsibilities and specific measures and protocols to protect sensitive fish species, sensitive bird nesting and roosting habitat, and archaeological resources as well requiring submittal of a final erosion and runoff control plan and a final debris disposal plan, among others, the amended development would remain consistent with all Chapter 3 policies of the Coastal Act, as assured by the Commission in granting the original permit.

Staff believes that the amended development, as conditioned, is consistent with all Coastal Act Chapter 3 policies and the policies of the certified Humboldt County LCP.

The Motion to adopt the Staff Recommendation of Approval with Conditions is on Page 8.

STAFF NOTES:

1. Procedural Note

Section 13166 of the California Code of Regulations states that the Executive Director shall reject an amendment request if: (a) it lessens or avoids the intent of the approved permit; unless (b) the applicant presents newly discovered material information, which he or she could not, with reasonable diligence, have discovered and produced before the permit was granted.

On May 14, 1981, the Commission granted Coastal Development Permit No. 80-P-69 to the Humboldt County Public Works Department to reconstruct and widen 7.37 miles of Old Arcata Road/Myrtle Avenue to a roadway extending from Hall Avenue to the Arcata City limits and having two 12-foot-wide traffic lanes, two 4-foot wide paved shoulders, and a 3-foot wide sloped unpaved shoulder in most locations. The approved project included the conversion of 0.75-acre of upland to farmed wetland or freshwater marsh. The project was originally expected to take 10 years to complete. The permit was approved with four special conditions, all of which have been satisfied by the County, including conditions requiring the County to (1) obtain approvals from the California Department of Fish and Game (CDFG) and the North Coast Regional Water Quality Control Board; (2) construct the mitigation sites pursuant to the proposed plans; (3) develop a management plan with CDFG to be ratified by the Regional Commission; and (4) record an open space easement at the mitigation site.

On July 13, 1981 the Executive Director granted an immaterial amendment to CDP No. 80-P-69, which reworded the fourth special condition of the original permit to require the permittee to convey an open space easement to the CDFG over the mitigation area rather than just to record an offer to dedicate an open space easement over the site.

On December 9, 1986, the Commission approved an amendment to the permit (renumbered as CDP Amendment No. 1-86-200-A), which allowed for the filling of an additional approximately one acre of seasonal wetlands in conjunction with the redesign and construction of an interchange where Myrtle Avenue, Upper Mitchell Road, and Lower Mitchell Road all convene. The amendment approval allowed for wetland impacts to be mitigated partially on-site, by removing fill from approximately 0.2-acre of land adjacent to the project site and by restoring the area to freshwater seasonal wetland, as well as partially off-site, by payment of an in-lieu fee to the Coastal Conservancy for general wetland restoration and enhancement purposes. The amendment was approved with one special condition requiring the in lieu fee payment (of eight cents per square foot of wetlands filled) to the Conservancy. The County satisfied this special condition by paying the Conservancy $2,843.44 in January of 1987.

Approximately 3.5 miles of the project area was widened/reconstructed between 1978 and 1990, when the project was put on hold due to funding constraints. Additional federal funds for the project became available in 2001, and in preparation for project resumption and to

account for project changes since its original approval, the County prepared an Environmental Impact Report (EIR) (prepared by Jones & Stokes, Draft EIR August 2001, Final EIR October 2001) and submitted a CDP amendment application to the Commission on December 17, 2001. However, CDP Amendment Application No. 1-86-200-A2 was never completed, and ultimately it was withdrawn.

CDP Amendment Application No. 1-86-200-A3, which is scheduled to be heard by the Commission concurrently with this amendment request on June 12, 2008, proposes to amend the approved roadway and bridge widening improvements around Ryan Slough to (1) reduce the approved widening of the Ryan Slough bridge from the approved 37 feet (including two 13-ft-wide lanes with 5.5-ft-wide raised walkways on either side) to 34.3 feet (including two 11-ft-wide traffic lanes with 6-ft-wide shoulders); (2) relocate the Humboldt Community Services District water main from the south side to the north side of the bridge; (3) make minor changes to the road widening plans; (4) remove one ~40-inch dbh redwood tree at Station 2+170; (5) place approximately 56 cubic yards of up to 1-ton rock slope protection (RSP) in an ~840-square-foot upland area at the western abutment of the Ryan Slough bridge to form a buttress protecting the abutment; and (6) replace two failing storm drainage pipes above the western (left) bank of Ryan Slough and place a total of ~18 cubic yards of rock for energy dissipation and erosion control. CDP Amendment No. 1-86-200-A3 affects an approximately 0.22-mile stretch of Myrtle Avenue between Post Mile (PM) 1.33 and PM 1.55 (Hall Avenue to just east of Ryan Slough bridge), a different geographic area than that affected by the subject amendment.

The current permit amendment request includes the following project changes: (1) relocation of an approximately 220-foot-long channelized section of Cochran Creek approximately 20 feet westward to accommodate a proposed shift in the approved road alignment; (2) realignment of the road section at Cox Corner eastward from the approved alignment; (3) encasement of approximately 1,334 feet of an existing road drainage ditch into 1.5-ft diameter to 3-ft diameter culverts (rather than relocating the roadside drainage ditch as originally approved); (4) removal of approximately 325 trees of varying types and sizes necessary for the relocation of utility poles; and (5) improvement of various storm drainage facilities as necessary to meet current County standards and NOAA-Fisheries fish passage requirements. CDP Amendment No. 1-86-200-A4 affects an approximately 3-mile stretch of Old Arcata Road between PM 3.77 and PM 6.75 (approximately Freshwater Corners to just south of Bayside Cutoff).

In approving the original Old Arcata Road/Myrtle Avenue widening project, the Commission found the project to be consistent with the wetland and ESHA protection policies of the Coastal Act. The project amendments currently proposed primarily are necessary due to changes in design standards and environmental conditions at the site that have occurred as a result of significant passage of time since original project approval.

The current amendment request necessitates no changes to either the original permit conditions or the conditions of the first permit amendment that pertain to the Mitchell Road area. Staff believes that with the attachment of the seven recommended special conditions described below, among others, the amended development would remain consistent with the

wetland and ESHA protection policies of the Coastal Act as intended by the Commission in granting the original permit:

- Add Special Condition No. A4-1 to require adherence to various construction responsibilities to protect coastal waters and wetlands;
- Add Special Condition No. A4-2 to require submittal of a final erosion and runoff control plan;
- Add Special Condition No. A4-3 to require submittal of a final debris disposal plan; and
- Add Special Condition No. A4-4 to require submittal of a final wetland mitigation and monitoring plan.
- Add Special Condition No. A4-6 to require specific measures and protocols to protect sensitive fish species.
- Add Special Condition No. A4-7 to require specific measures and protocols to protect sensitive bird nesting and roosting habitat.
- Add Special Condition No. A4-8 to require measures to protect archaeological resources.

Thus, the Executive Director has determined that the proposed amendment as conditioned would not lessen or avoid the intent of the approved permit. Therefore, the Executive Director has accepted the amendment request for processing.

2. Commission Jurisdiction & Standard of Review

The portion of the amended development affected by CDP Amendment No. 1-86-200-A4 is located along the Old Arcata Road/Myrtle Avenue corridor from Post Mile (PM) 3.77 near Freshwater Corners to PM 6.75 just south of the Bayside Cutoff (see Exhibit Nos. 1 and 2). The boundary between the Commission's area of retained permit jurisdiction and the area covered by the certified Humboldt County Local Coastal Program (LCP) bisects the project area in several locations (Exhibit No. 3). The Commission's jurisdiction over the project area extends from Stations 7+320 to 8+550 and from Stations 9+970 to 10+930 and totals approximately 44 percent of the project area (1.36 miles). The standard of review for projects located in the Commission's retained jurisdiction is Chapter 3 of the Coastal Act. Approximately 56 percent of the project area (1.76 miles; from Stations 5+900 to 7+320 and from Stations 8+550 to 9+970) occurs within an area certified under the Humboldt Bay Area Plan of the Humboldt County LCP. The standard of review that the Commission must apply to the portion of the project in these certified areas is the certified Humboldt County LCP. Although portions of the project are subject to the Chapter 3 policies of the Coastal Act and portions of the project are subject to the Humboldt County LCP, the relevant Chapter 3 policies have been incorporated as LUP Policies into the Humboldt Bay Area Plan (HBAP). Accordingly, in finding the amended development consistent with the relevant Chapter 3 policies of the Coastal Act, the Commission is also finding the amended development consistent with the identical policies of the HBAP.

3. Scope

This staff report addresses only the coastal resource issues affected by the proposed permit amendment, provides recommended special conditions to reduce and mitigate significant impacts to coastal resources caused by the development, as amended, in order to achieve consistency with the Coastal Act and Humboldt County Local Coastal Program, as applicable, and provides findings for conditional approval of the amended development. All other analysis, findings, and conditions related to the originally permitted development (CDP No. 80-P-69), the immaterial amendment to CDP No. 80-P-69 granted by the Executive Director, and CDP Amendment No. 1-86-200-A, except as specifically affected by the current permit amendment request and addressed herein, remain as stated within the staff report for the original permit approval adopted by the Commission on May 14, 1981 attached as Exhibit No. 16, in the July 13, 1981 notice of the immaterial amendment to CDP No. 80-P-69 included as Exhibit No. 17, and in the staff recommendation for CDP Amendment No. 1-86-200-A adopted by the Commission on December 9, 1986 attached as Exhibit No. 18.

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

> *I move that the Commission approve the proposed amendment to Coastal Development Permit Amendment No. 1-86-200-A3 pursuant to the staff recommendation.*

Staff Recommendation of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve with Conditions:

The Commission hereby approves the proposed permit amendment and adopts the findings set forth below, subject to the conditions below, on the grounds that the development with the proposed amendment, as conditioned, will be in conformity with the Chapter 3 policies of the Coastal Act and the policies of the certified Humboldt County Local Coastal Program. Approval of the permit complies with the California Environmental Quality Act because all feasible mitigation measures and alternatives have been incorporated to substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See Attachment A.

III. SPECIAL CONDITIONS:

Note: The original permit contained four special conditions, all of which are reimposed as conditions of this permit amendment and remain in full force and effect. Additionally, CDP Amendment No. 1-86-200-A contained one special condition, which is reimposed as a condition of this permit amendment and remains in full force and effect. Special Condition Nos. A4-1 through A4-11 are new special conditions added to CDP No. 80-P-69. Furthermore, all special conditions that may have been imposed by the Commission in its concurrent action on CDP Amendment No. 1-86-200-A3 remain in full force and effect. For comparison, the text of the conditions of the original permit, the immaterial permit amendment, and the first material permit amendment are included in Exhibit Nos. 16, 17, and 18, respectively.

Deleted wording within the modified special conditions is shown in ~~strikethrough~~ text, and new condition language appears as **bold double-underlined** text.

A4-1. Construction Responsibilities for the Development Authorized by CDP Amendment No. 1-86-200-A4:

The permittee shall comply with the following construction-related requirements:

A. No construction materials, debris, or waste shall be placed or stored where it may be subject to entering waters of Cochran Creek, Rocky Gulch, the tributary to Rocky Gulch, or any other coastal waters or wetlands;

B. All construction activities, except for in-stream activities, shall be conducted during the dry season period of April 15 through October 15; In-stream activities, including culvert replacement work, shall take place between June 30 and October 15 only.

C. If rainfall is forecast during the time construction activities are being performed, any exposed soil areas shall be promptly mulched or covered with plastic sheeting and secured with sand bagging or other appropriate materials before the onset of precipitation;

D. Any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion in accordance with Special Condition No. A4-3;

E. During construction, all trash shall be properly contained, removed from the work site, and disposed of on a regular basis to avoid contamination of habitat during restoration activities. Following construction, all trash and construction debris shall be removed from work areas and disposed of

properly;

F. Any debris discharged into coastal waters shall be recovered immediately and disposed of properly;

G. Any fueling and maintenance of construction equipment shall occur within upland areas outside of environmentally sensitive habitat areas or within designated staging areas. Mechanized heavy equipment and other vehicles used during the construction process shall not be stored or re-fueled within 300 feet of coastal waters; and

H. Fuels, lubricants, and solvents shall not be allowed to enter the coastal waters or wetlands. Hazardous materials management equipment including oil containment booms and absorbent pads shall be available immediately on-hand at the project site, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call. Any accidental spill shall be rapidly contained and cleaned up.

A4-2. Final Erosion & Sediment Control Plan for the Development Authorized by CDP Amendment No. 1-86-200-A4

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-86-200-A4, the applicant shall submit, for the review and approval of the Executive Director, a final plan for erosion and sediment control.

1) The plan shall demonstrate that:

(a) Run-off from the project site shall not increase sedimentation in coastal waters;

(b) Run-off from the project site shall not result in pollutants entering coastal waters;

(c) Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters during the construction activities, including but not limited to, the use of relevant BMPs as detailed in the "California Storm Water Best Management Practice Handbooks, developed by Camp, Dresser & McKee, *et al.* for the Storm Water Quality Task Force (see http://www.cabmphandbooks.com);

(d) Discharge from dewatering operations and runoff from disturbed areas shall conform to water quality conditions required

by the waste discharge permit issued by Regional Water Quality Control Board;

(e) Material stockpile side slopes shall not be steeper than 2:1; all stockpile areas shall be surrounded by a filter fabric fence and interceptor dike;

(f) Soil exposure shall be minimized through the use of temporary BMPs, ground cover, and stabilization measures;

(g) An appropriate seed mix of native species shall be planted on disturbed areas upon completion of construction; no plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be used for erosion control; no plant species listed as a "noxious weed" by the governments of the State of California or the United States shall be utilized within the property;

(h) Sandbagged silt fences shall be installed in all named and unnamed waterways in which construction work occurs, both upstream and downstream of the construction site; any accumulated sediment shall be removed and taken to an approved upland disposal site;

(i) Only the minimum amount of vegetation necessary to construct the project shall be removed; and

(j) The plan shall be consistent with the requirements of all other special conditions, including but not limited to Special Condition No. A4-1 – Construction Responsibilities.

2) The plan shall include, at a minimum, the following components:

(a) A schedule for installation, maintenance, and ultimate removal of appropriate construction source control best management practices (BMPs); and

(b) An on-site spill prevention and control response program, consisting of best management practices (BMPs) for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project to capture and clean-up any accidental releases of oil, grease, fuels, lubricants, or other hazardous materials from entering coastal waters.

B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-3. Final Debris Disposal Plan for the Development Authorized by CDP Amendment No. 1-86-200-A4

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-86-200-A4, the applicant shall submit, for the review and approval of the Executive Director, a final plan for the disposal of excess construction related debris including, but not limited to, concrete, vegetation and soil spoils, old culverts, etc. The plan shall describe the manner by which the material will be removed from the construction site and identify a disposal site that is in an upland area where materials may be lawfully disposed.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-4 Final Wetland Mitigation & Monitoring Plan for the Development Authorized by CDP Amendment No. 1-86-200-A4

A. PRIOR TO ISSUANCE OF COASTAL DEVELOMENT PERMIT AMENDMENT NO. 1-86-200-A4, the applicant shall submit, for the review and written approval of the Executive Director, a Final Wetland Mitigation and Monitoring Plan which provides adequate mitigation compensation for the 3.25 acres of wetland fill impacts associated with the development consistent with the following requirements:

The applicant shall provide compensation for the filling of 0.72-acre of roadside ditch wetlands (primarily "coastal scrub" wetlands), which are to be mitigated on-site, at a 1:1 ratio, through the creation of new roadside ditch wetlands. The applicant shall provide off-site compensation for the filling of 2.30 acres of

wetlands (1.85 acres of "coastal scrub" wetland, 0.32-acre of "coastal prairie seasonal wetland," and 0.13-acre of "freshwater marsh" wetland) at a 1:1 ratio by debiting the same area of wetland credits from the Fay Slough Wildlife Area wetland mitigation bank where equivalent habitat and values have already been restored. Finally, the applicant shall provide compensation for the filling of 0.23-acre of riparian/arboreal wetlands (at Cox Corner) either in the form of (1) in-kind mitigation at a 4:1 ratio that includes providing 0.13-acre of riparian wetland creation on-site as proposed by the applicant and 0.80-acre of additional riparian wetland creation elsewhere, OR (2) partial in-kind and partial out-of-kind mitigation at a ratio of 8:1 comprised of the 0.13-acre of on-site riparian habitat mitigation proposed by the applicant and 1.70 acres of wetland credits from the Fay Slough Wildlife Area wetland mitigation bank where seasonal wetland and freshwater marsh have been created.

The submitted Final Wetland Mitigation and Monitoring Plan shall specifically provide for the following:

(1) Provisions for the creation of 0.72-acre of new roadside ditch wetland habitat;

(2) Provisions for debiting 2.30 acres of wetland mitigation credits from the Fay Slough Wildlife Area wetland mitigation bank as described in the 1990 Letter of Understanding signed by Humboldt County and the California Department of Fish and Game to compensate for the filling of 1.85 acres of coastal scrub wetlands, 0.32 acres of "coastal prairie seasonal wetland," and 0.13-acre of "freshwater marsh" wetlands at a 1:1 ratio (the amount of wetland mitigation credits debited from the bank shall equate to at least the same amount of coastal scrub, coastal prairie, and freshwater marsh wetlands impacted by the development;

(3) On-site riparian wetland mitigation as proposed by the applicant along the realigned Cochran Creek Channel, at Cox Corner, and at the tributary to Rocky Gulch Crossing providing an approximate total of 5,600 square feet (0.13-acre) of new riparian wetland to partially compensate for the loss of approximately 10,000 square feet (0.23-acre) of riparian/arboreal wetland from the wetland fill impacts of the development at Cox Corner. The on-site riparian wetland mitigation plan shall substantially conform with the preliminary revegetation plan prepared by the County dated April 14, 2008 (attached as Exhibit No. 14), except that the final plan shall be revised pursuant to Section C below; and

(4) Additional mitigation to compensate for the loss of 0.23-acre of riparian/arboreal wetland from the wetland fill impacts of the development at Cox Corner in the form of EITHER of the following:

(a) Creation of a total of approximately 35,000 square feet (0.80-acre) of additional riparian habitat either on-site or off-site according to a riparian mitigation plan prepared in accordance with Subsections E through H herein, OR

(b) Provisions for debiting additional wetland mitigation credits in the amount of 1.70 acres from the Fay Slough Wildlife Area wetland mitigation bank as described in the 1990 Letter of Understanding signed by Humboldt County and the California Department of Fish and Game.

B. The provisions for debiting wetland credits from the Fay Slough Mitigation Bank pursuant to Sections A(2) and A(4)(b) above shall include:

(1) A summary of the exact amount of credits the applicant is intending to debit pursuant to Sections A(2) and A(4)(b) above, and

(2) Certification from the California Department of Fish and Game that the Department agrees to use of the property for this purpose and that there is sufficient credit remaining pursuant to the 1990 Letter of Understanding to accommodate the total amount of wetland credits claimed by the applicant.

C. The Final Wetland Mitigation and Monitoring Plan for on-site wetland mitigation along the realigned Cochran Creek Channel, at Cox Corner, and at the tributary to Rocky Gulch Crossing to be prepared pursuant to Section A(3) above shall demonstrate that:

(1) Only regionally appropriate native vegetation shall be used. The vegetation to be replanted shall be of local genetic stock, if available. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be installed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the governments of the State of California or the United States shall be utilized within the property;

(2) Revegetation shall achieve a standard for success of at least 80

percent survival of plantings or at least 80 percent ground cover for broadcast seeding after a period of 3 years; and

(3) Rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone or Diphacinone, shall not be used;

D. The Final Wetland Mitigation and Monitoring Plan for on-site wetland mitigation along the realigned Cochran Creek Channel, at Cox Corner, and at the tributary to Rocky Gulch Crossing to be prepared pursuant to Section A(3) above shall include, at a minimum, the following components:

(1) Specified goals of the plan and performance criteria for evaluating the success of the revegetation goals;

(2) A site plan accompanied by a plant list, which together show the type, size, number, source, and location of all plant materials that will be retained or installed on the disturbed area;

(3) A maintenance plan (e.g., weeding, replacement planting) and monitoring plan to ensure that the specified goals and performance criteria have been satisfied. Restoration sites shall be monitored yearly with at least one site visit during the spring or summer months for a minimum of three years following completion of the project. All plants that have died shall be replaced during the next planting cycle (generally between late fall and early spring) and monitored for a period of three years after planting.

(4) Provisions for submission of a final monitoring report to the Executive Director at the end of the three-year reporting period. The final report must be prepared in conjunction with a qualified wetlands biologist. The report must evaluate whether the revegetation of the site conforms with the goals, objectives, and performance standards set forth in the approved final revegetation and monitoring plan. The report must address all of the monitoring data collected over the three-year period.

E. The Final Plan for the Creation of Additional Riparian Mitigation to be prepared pursuant to Section A(4)(a) above shall demonstrate that:

(1) Only habitat-specific, regionally appropriate native vegetation shall be used. The vegetation to be replanted shall be of local genetic stock, if available. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be installed or allowed to naturalize or persist in the development area. No plant species listed as a

"noxious weed" by the governments of the State of California or the United States shall be utilized within the property;

(2) Revegetation shall achieve a standard for success of at least 80 percent survival of plantings or at least 80 percent ground cover for broadcast seeding after a period of 3 years; and

(3) Rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone or Diphacinone, shall not be used;

F. The Final Plan for the creation of additional riparian mitigation to be prepared pursuant to Section A(4)(a) above shall include, at a minimum the following components:

(1) Specified goals of the plan, including a clear narrative description of the characteristics of the habitat type that the restoration is intended to provide, and performance criteria for evaluating the success of the riparian mitigation goals;

(2) Description of the existing habitat at the chosen restoration site;

(3) A schedule for the creation of a 35,000-square-foot riparian wetland mitigation area that demonstrates that (a) any required excavation and grading at the mitigation site shall only be performed during the non-rainy season between May 1 and October 15, and shall be completed within three months of completion of construction of the development authorized by CDP Amendment No. 1-86-200-A4, and (b) the riparian vegetation planting shall be performed between November 1 and April 15 during the first rainy season following completion of the mitigation site excavation and grading work;

(4) Any necessary grading and erosion and sediment control plans for the mitigation site if soil will be significantly disturbed during the course of the mitigation work;

(5) A planting plan accompanied by a plant list, which together show the type, size, number, source, and location of all plant materials that will be retained or installed at the mitigation site;

(6) A maintenance plan (e.g., weeding, replacement planting) and monitoring plan to ensure that the specified goals and performance criteria have been satisfied. Restoration sites shall be monitored yearly with at least one site visit during the spring or summer months for a minimum of three years following completion of the project. All plants that have died shall be replaced during the next

planting cycle (generally between late fall and early spring) and monitored for a period of three years after planting.

(7) Provisions for submittal of "as built" plans demonstrating that the riparian/arboreal wetland mitigation work has been completed in accordance with the approved mitigation plan; and

(8) Provisions for submittal of a final monitoring report to the Executive Director at the end of the three-year reporting period. The final report must be prepared in conjunction with a qualified wetlands biologist. The report must evaluate whether the revegetation of the site conforms with the goals, objectives, and performance standards set forth in the approved final riparian mitigation plan. The report must address all of the monitoring data collected over the three-year period.

G. If the final monitoring report indicates that the revegetation plan or riparian mitigation plan has been unsuccessful, in part or in whole, based on the approved goals, objectives, and performance standards set forth in the approved final riparian mitigation plan, the applicant shall submit a revised or supplemental plan to compensate for those portions of the original plan which did not meet the approved goals and objectives. The revised plan shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

H. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-5. Revised Account Summary for the Fay Slough Wildlife Area Wetland Mitigation Bank

WITHIN 90 DAYS OF ISSUANCE OF CDP AMENDMENT NO. 1-86-200-A4, the permittee shall submit for the review and approval of the Executive Director a revised account summary for the Fay Slough Wildlife Area wetland mitigation bank, reviewed and approved by the California Department of Fish and Game, that substantially conforms with the account summary prepared by the County dated March 7, 2008 and updated April 21, 2008 and May 5, 2008 (attached as Exhibit No. 9), except that the revised account summary shall be updated to reflect the appropriate debit amount for wetland impacts associated with CDP

Amendment No. 1-86-200-A4 and any remaining wetland credits. The revised account summary shall also include an updated map of the FSWA wetland mitigation bank showing the amount and type of wetland credits debited to date as well as wetland credits potentially available for future use.

A4-6. Implementation of Sensitive Fish Species Mitigation Measures for the Development Authorized by CDP Amendment No. 1-86-200-A4

The permittee shall undertake all development authorized by CDP Amendment No. 1-86-200-A4 in accordance with the following measures and protocols to ensure minimization of impacts to Tidewater goby, sensitive salmonids, and sensitive fish critical habitat within and around the project area:

A. The permittee shall comply with all conservation measures listed in the March 13, 2003 Fish and Wildlife Service formal consultation/biological opinion to minimize potential impacts to Tidewater goby downstream of the project area.

B. The permittee shall comply with all Reasonable and Prudent Measures and Terms and Conditions listed in the February 28, 2003 NOAA-Fisheries formal consultation/biological opinion (as well as any subsequent updates) to minimize potential impacts to listed salmonids and salmonid critical habitat in and around the project area.

C. The permittee shall implement the Water Management Plan prepared by Humboldt County Public Works Department dated April 7, 2008 (Exhibit No. 13).

A4-7. Protection of Sensitive Bird Nesting & Roosting Sites

A. PRIOR TO REMOVAL OF ANY TREES NECESSARY FOR THE RELOCATION OF UTILITY POLES, the permittee shall submit a Final Sensitive Bird Protection Plan for the review and approval of the Executive Director, which addresses sensitive bird nesting and roosting habitat in the project area.

(1) The plan shall demonstrate that:

(a) The areas proposed for tree removal for utility pole relocation have been surveyed by a qualified biologist in consultation with the California Department of Fish and Game for the presence of active nesting and/or roosting habitat of sensitive bird species;

(b) Any sensitive bird nesting and/or roosting trees located in areas of potential impact shall be avoided.

(2) The plan shall include at a minimum the following components:

(a) Seasonally appropriate surveys conducted by a qualified biologist for active nesting and/or roosting trees for herons, Bald eagle, White-tailed kite, Northern harrier, Cooper's hawk, Osprey, and other sensitive bird species with the potential for occurrence in the project area;

(b) A map that locates any sensitive habitat identified by the survey;

(c) A narrative that describes avoidance measures proposed; and

(d) A revised site plan for utility line relocation that shows how the utility line has been rerouted to avoid any sensitive habitat identified by the survey.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-8. Area of Archaeological Significance

A. The permittee shall undertake project construction in accordance with the mitigation measures detailed in the cultural resources section of the Environmental Impact Report (Jones & Stokes 2001).

B. If an area of historic or prehistoric cultural resources or human remains are discovered during the course of the project, all construction shall cease and shall not recommence except as provided in subsection (C) hereof, and a qualified cultural resource specialist shall analyze the significance of the find.

C. A permittee seeking to recommence construction following discovery of the cultural deposits shall submit an archaeological plan for the review and approval of the Executive Director.

(1) If the Executive Director approves the Archaeological Plan and determines that the Archaeological Plan's recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, construction may recommence after this determination is made by the Executive Director.

(2) If the Executive Director approves the Archaeological Plan but determines that the changes therein are not *de minimis*, construction may not recommence without a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-9. U.S. Army Corps of Engineers Approval for the Development Authorized by CDP Amendment No. 1-86-200-A4

PRIOR TO COMMENCEMENT OF ANY DEVELOPMENT, the permittee shall provide to the Executive Director a copy of a permit issued by the Army Corps of Engineers, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Corps. Such changes shall not be incorporated into the project until the applicant obtains a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-10. North Coast Regional Water Quality Control Board Approval for the Development Authorized by CDP Amendment No. 1-86-200-A4:

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-86-200-A3, the applicant shall provide to the Executive Director a copy of a permit issued by the North Coast Regional Water Quality Control Board, or evidence that no permit is required. The applicant shall inform the Executive Director of any changes to the project required by the Board. Such changes shall not be incorporated into the project until the applicant obtains a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

A4-11. California Department of Fish and Game Approval for the Development Authorized by CDP Amendment No. 1-86-200-A4:

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-86-200-A3, the applicant shall provide to the Executive Director a copy of a permit issued by the California Department of Fish and Game, or evidence that no permit is required. The applicant shall inform the Executive Director of any changes to the project required by the Department. Such changes shall not be incorporated into the project until the applicant obtains a further amendment to Coastal Development Permit No. 80-P-69 (renumbered as CDP No. 1-86-200) as amended, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS & DECLARATIONS

The Commission finds and declares the following:

A. PROJECT & SITE DESCRIPTION

1. Background & Project Setting

Myrtle Avenue and its northern extension, Old Arcata Road, comprised the original portion of U.S. Highway 101 that rounded the northern lobe of Humboldt Bay between Eureka and Arcata before being replaced in the mid-1900s by the current expressway that cuts across the former bay tidelands in a more direct route between the two cities. The road was built as a narrow two lane rural highway, and the road retains that character despite the modest increases in development density over the years within the area served by the road. Planning for the Old Arcata Road Widening and Rehabilitation Project began in the 1970s, and the project was initially implemented in the early 1980s (see description of originally approved project below). The stated purpose of the project was twofold: (1) to improve safety along the corridor for motor vehicles, pedestrians, and bicyclists; and (2) to upgrade the road to current County standards. The sections of roadway approved for widening were last improved in 1946 and have travel lanes varying in width between 10 and 12 feet, inadequate or nonexistent shoulders, poor sight distance on curves, non-standard intersections, and ditches and power poles close to the edge of pavement. The substandard road conditions increase the accident potential when drivers are confronted with an emergency and have no room to recover, and there have been a number of injury and fatal accidents in the corridor over the years. A side benefit of the project is the proposed replacement of substandard culverts that cross the road in various locations. The new culverts are designed as fish passage culverts that meet the design criteria of the National Marine Fisheries Service (NOAA-Fisheries).

The portion of the amended development affected by CDP Amendment No. 1-86-200-A4 is located along the Old Arcata Road/Myrtle Avenue corridor from Post Mile (PM) 3.77 near Freshwater Corners to PM 6.75 just south of the Bayside Cutoff (see Exhibit Nos. 1 and 2). The boundary between the Commission's area of retained permit jurisdiction and the area covered by the certified Humboldt County Local Coastal Program (LCP) bisects the project area in several locations (Exhibit No. 3). The Commission's jurisdiction over the project area extends from Stations 7+320 to 8+550 and from Stations 9+970 to 10+930 and totals

approximately 44 percent of the project area (1.36 miles). The standard of review for projects located in the Commission's retained jurisdiction is Chapter 3 of the Coastal Act. Approximately 56 percent of the project area (1.76 miles; from Stations 5+900 to 7+320 and from Stations 8+550 to 9+970) occur within an area certified under the Humboldt Bay Area Plan of the Humboldt County LCP. The standard of review that the Commission must apply to the portion of the project in these certified areas is the certified Humboldt County LCP.

The project area is located on the inland edge of the coastal zone, which borders the inland extent of the road right-of-way. The project area is distant from the ocean and Humboldt Bay, separated from the latter by a substantial area of grazed seasonal wetlands in former tidelands inland of Highway 101. The project area traverses the lower slopes of hills, sections of diked former tidelands, and a total of five intermittent and perennial stream crossings, including Redmond Creek (a tributary to Fay Slough) at the southern end of the project area near Freshwater Corners; Cochran Creek (a tributary to Fay Slough) just south of Ole Hansen Road; an unnamed tributary to Fay Slough at Cox Corner; Rocky Gulch; and an unnamed tributary to Rocky Gulch approximately one half mile north of Rocky Gulch.

2. Description of Originally Approved Project

On May 14, 1981, the Commission granted Coastal Development Permit No. 80-P-69 to the Humboldt County Public Works Department to reconstruct and widen 7.37 miles of Old Arcata Road/Myrtle Avenue to a roadway extending from Hall Avenue to the Arcata City limits and having two 12-foot-wide traffic lanes, two 4-foot wide paved shoulders, and a 3-foot wide sloped unpaved shoulder in most locations. The approved project included the conversion of 0.75-acre of upland to farmed wetland or freshwater marsh. In its approval of the project, the Commission allowed 1.28 acres of wetlands to be filled and 1.75 acres of freshwater marsh to be created as mitigation to the wetland fill. The mitigation sites were located at Freshwater Corners and at Post Mile (PM) 6.42 near Rocky Gulch and were developed and managed under an agreement between the County and the Department of Fish and Game (dated April 1981). The permit was approved with four special conditions, all of which have been satisfied by the County, including conditions requiring the County to (1) obtain approvals from the California Department of Fish and Game (CDFG) and the North Coast Regional Water Quality Control Board; (2) construct the mitigation sites pursuant to the proposed plans; (3) develop a management plan with CDFG to be ratified by the Regional Commission; and (4) record an open space easement at the mitigation site.

On July 13, 1981 the Executive Director granted an immaterial amendment to CDP No. 80-P-69, which reworded the fourth special condition of the original permit to require the permittee to convey an open space easement to the CDFG over the mitigation area rather than just to record an offer to dedicate an open space easement over the site.

3. Description of Amended Development Approved Under CDP Amendment No. 1-86-200-A

On December 9, 1986, the Commission approved an amendment to the permit (renumbered as CDP Amendment No. 1-86-200-A), which allowed for the filling of an additional

approximately one acre of seasonal wetlands in conjunction with the redesign and construction of an interchange where Myrtle Avenue, Upper Mitchell Road, and Lower Mitchell Road all convene. The amendment approval allowed for wetland impacts to be mitigated partially on-site, by removing fill from approximately 0.2-acre of land adjacent to the project site and by restoring the area to freshwater seasonal wetland, as well as partially off-site, by payment of an in-lieu fee to the Coastal Conservancy for general wetland restoration and enhancement purposes. The amendment was approved with one special condition requiring the in lieu fee payment (of eight cents per square foot of wetlands filled) to the Conservancy. The County satisfied this special condition by paying the Conservancy $2,843.44 in January of 1987.

Approximately 3.5 miles of the project area was widened/reconstructed between 1978 and 1990, when the project was put on hold due to funding constraints. Additional federal funds for the project became available in 2001, and in preparation for project resumption and to account for project changes since its original approval, the County prepared an Environmental Impact Report (prepared by Jones & Stokes, Draft EIR August 2001, Final EIR October 2001) and submitted a CDP amendment application to the Commission on December 17, 2001. However, CDP Amendment Application No. 1-86-200-A2 was never completed, and ultimately it was withdrawn.

4. Description of Amended Development Approved Under CDP Amendment No. 1-86-200-A3

CDP Amendment Application No. 1-86-200-A3, which is scheduled to be heard by the Commission concurrently with this amendment request on June 12, 2008, proposes to amend the approved roadway and bridge widening improvements around Ryan Slough to (1) reduce the approved widening of the Ryan Slough bridge from the approved 37 feet (including two 13-ft-wide lanes with 5.5-ft-wide raised walkways on either side) to 34.3 feet (including two 11-ft-wide traffic lanes with 6-ft-wide shoulders); (2) relocate the Humboldt Community Services District water main from the south side to the north side of the bridge; (3) make minor changes to the road widening plans; (4) remove one ~40-inch dbh redwood tree at Station 2+170; (5) place approximately 56 cubic yards of up to 1-ton rock slope protection (RSP) in an ~840-square-foot upland area at the western abutment of the Ryan Slough bridge to form a buttress protecting the abutment; and (6) replace two failing storm drainage pipes above the western (left) bank of Ryan Slough and place a total of ~18 cubic yards of rock for energy dissipation and erosion control. CDP Amendment No. 1-86-200-A3 affects an approximately 0.22-mile stretch of Myrtle Avenue between Post Mile (PM) 1.33 and PM 1.55 (Hall Avenue to just east of Ryan Slough bridge), a different geographic area than that affected by CDP Amendment No. 1-86-200-A4.

5. Description of Amended Development Proposed Under CDP Amendment No. 1-86-200-A4

Under the current amendment request, the applicant proposes to further amend the amended development to include the following project changes:

- **Cochran Creek (Station 7+645 – 7+715)**: The amendment request proposes to shift the road alignment slightly westward from the realignment that was approved under the original permit. As a result, an approximately 220-foot-long channelized section of Cochran Creek is proposed to be relocated approximately 20 feet to the west. The existing channel reach will be filled, and a new channel of at least equal size and length to that being filled will be constructed in an area currently identified as a seasonal agricultural wetland. Portions of the newly formed channel will be armored with ½-ton rock slope protection. The goal of the new channel design, in conjunction with the replacement of the culvert crossing, is to alleviate flooding, facilitate the transport of bedload and debris, and allow for optimum benefit to aquatic biota.
- **Cox Corner (Station 8+320 – 8+420)**: The proposed road realignment in this area deviates from the approved realignment and will result in the impacts to coastal scrub wetlands, freshwater marsh, and mature riparian/arboreal wetland habitat. The sharp curve in the roadway will be straightened by shifting the roadway eastward.
- **Indianola Cutoff (Station 8+710 – 9+270)**: The amendment request proposes to encase in 1.5-foot-diameter to 3-foot-diameter culverts approximately 1,335 feet of an existing roadside drainage ditch extending from Indianola Cutoff to Old Indianola Road. The original permit approval allowed for filling the ditch and excavating a new open ditch through the front yards of adjacent property owners, as the County right-of-way is constrained in this narrow stretch of roadway. However, additional development since the original permit approval in 1981 combined with the noncommittal of many landowners to reestablish the drainage ditch has prompted the storm drain system proposal.
- **Major Vegetation Removal**: The amended development would authorize the removal of an additional approximately 325 trees of varying types and sizes necessary for the relocation of utility poles (see Exhibit No. 6 for details). The original approval included the relocation of utility poles along the corridor to accommodate the road widening, but it did not approve the major vegetation removal activities currently proposed. The County proposes to remove the following major vegetation:
    - 117 second-growth redwood (*Sequoia sempervirens*) trees greater than 12-inches diameter at breast height (dbh)
    - 130 redwood trees less than 12-inches dbh
    - two Douglas-fir (*Pseudotsuga menziesii*) trees greater than 12-inches dbh
    - two Sitka spruce (*Picea sitchensis*) trees greater than 12-inches dbh
    - 71 red alder (*Alnus rubra*) trees less than 8-inches dbh
    - one red alder tree greater than 12-inches dbh
- **Storm Drainage Improvements**: The amended development would make various storm drainage improvements (*e.g.*, ditches, storm drains) as necessary to meet current County standards and NOAA-Fisheries fish passage requirements. A total of 12 road-crossing culverts are proposed to be improved, extended, or replaced. Two of the 12 existing culverts will be replaced with culverts designed for fish passage, while the

remaining 10 culverts will be improved or extended for drainage/flooding alleviation purposes. The proposed culvert work is summarized in Table 1 below:

Table 1. Proposed culvert work in the project area.[1]

Culvert Location (Station No.)	Existing Culvert Size (inches)	Proposed Culvert Size (inches)	Notes
6+453	20	20	extend with original size
7+362	24	48	replace/upgrade
7+621	24	24	extend with original size
7+644 (Cochran Creek)	dual 36	144	new concrete box culvert (for fish passage)
7+718	24	24	extend with original size
8+322 (Cox Corner)	48	96	new concrete box culvert
A'1+147	24	24	extend with original size
9+445	12	18	replace/upgrade
10+155	24	48	replace/upgrade
10+405	12	18	replace/upgrade
10+646	12	18	replace/upgrade
10+713 (tributary to Rocky Gulch)	20	72	replace/upgrade (for fish passage) & place light RSP at inlet and outlet

The applicant is proposing the following mitigation measures and best management practices (BMPs) for the amended development:

- The County prepared a Water Management Plan (Exhibit No. 13) to minimize impacts to waterways and fish habitat in the project area.
- The County prepared a Revegetation Plan (Exhibit No. 14) to minimize impacts to and restore disturbed areas at three locations: Cochran Creek, Cox Corner (tributary to Fay Slough), and the tributary to Rocky Gulch. Additionally, the County proposes to plant the newly created roadside ditches (on-site replacement for wetland ditches to be filled) with a native grass seed mix and mulch the areas for erosion control.
- The County prepared a Debris Disposal Plan (Exhibit No. 15) to address the management and disposal of excess construction-related debris.
- Various construction site BMPs, such as the use of sediment traps, silt fences, fiber rolls, concrete waste management stations, etc., will be implemented according to the plans shown in Exhibit No. 12.
- Various proposed mitigation measures, including reasonable and prudent measures recommended by NOAA-Fisheries for work that potentially could impact listed fish

[1] Originally culvert replacement (with a fish-friendly box culvert) and drainage improvement work was proposed for the Rocky Gulch crossing as well, but this work was split off from this project and was instead completed under CDP No. 1-06-049, approved by the Commission in April of 2007 (the work was completed in the summer of 2007).

species, are summarized in Exhibit No. 12.

- Prior to removal of major vegetation, the County proposes to conduct surveys by a qualified biologist for nesting raptors, roosting bald eagles, heron rookeries, and nesting birds protected under the Migratory Bird Treaty Act (MBTA). If any such birds are detected, the tree would be avoided and CDFG contacted to determine the appropriate "no disturbance" buffer to be established until nesting is complete.
- The County proposes to mitigate for wetland impacts at a 1-to-1 ratio both on-site (creation of new roadside ditches for roadside ditches filled) and off-site at the Fay Slough Wildlife Area "wetland mitigation bank" (see discussion under Section IV-B below).

In addition, the Commission notes that the applicant has been or will be issued several other permits and associated authorizations for the project that contain terms and conditions for avoiding or minimizing impacts to coastal resources and the environment (see "other approvals" listed on page 2).

B. PROJECTED WETLANDS IMPACT IN THE OVERALL PROJECT AREA

1. Proposed "Permanent" Wetland Impacts

The amended development is projected to permanently impact (fill) 2.53 acres of wetlands, which are proposed to be mitigated off site at the Fay Slough Wildlife Area "wetland mitigation bank." Exhibit No. 6 depicts the wetland areas to be impacted on aerial photos of the project area, and Exhibit Nos. 2, 9, and 11 show the proposed off-site wetland mitigation area. The table below details the amount and type of permanent wetland impacts in the project area:

Table 2. Proposed permanent wetland impacts in the project area.

Location (Project Section & Station Nos.)	Permit Jurisdiction (County or State)	Type of Wetland To Be Impacted (from Jones & Stokes 2001)	Amount of Wetland Area To Be Impacted[1]
1 (5+900-6+240)	County	coastal scrub	0.05
2 (6+240-7+072)	County	coastal scrub	0.25
	County	coastal prairie seasonal wetland	0.08
3 (7+072-8+070)	State	coastal scrub	0.29[1]
	State	coastal prairie seasonal wetland	0.22
4 (8+070-9+602)	County	coastal scrub	0.61[1]
	State	coastal scrub	0.05[1]
	State	freshwater marsh/riparian/arboreal	0.23
5 (9+602-10+502)	State	coastal scrub	0.31
	State	freshwater marsh	0.11
6 (10+502-	State	coastal scrub	0.29
	State	coastal prairie seasonal wetland	0.02

Location (Project Section & Station Nos.)	Permit Jurisdiction (County or State)	Type of Wetland To Be Impacted (from Jones & Stokes 2001)	Amount of Wetland Area To Be Impacted[1]
10+930)	State	freshwater marsh	0.02
TOTAL WETLAND IMPACTS	**County: 0.99-acre[1]** **State: 1.54 acres[1]**	**Coastal Scrub[2]: 1.85 acres** **Coastal Prairie[2]: 0.32-acre** **Riparian/Arboreal: 0.23-acre** **Freshwater Marsh[2]: 0.13-acre**	**Overall Total: 2.53 acres**

[1] All calculated areas are approximate.

[2] See Exhibit No. 7 for descriptions of each wetland type.

As summarized in the above table, the amended development will permanently impact (fill) approximately 1.85 acres of "coastal scrub wetlands," 0.32-acre of "coastal prairie seasonal wetlands," 0.23-acre of "riparian/arboreal wetlands," and 0.13-acre of "freshwater marsh wetlands." The County proposes to mitigate for these permanent wetland impacts off-site at the Fay Slough Wildlife Area (FSWA), which is located approximately one half mile east of the project area (see Exhibit No. 2). The FSWA consists of 484 acres of mostly wetland habitat owned and managed by the California Department of Fish and Game (CDFG). In anticipation of unavoidable wetland impacts associated with the Old Arcata Road/Myrtle Avenue Widening Project and potentially other County projects, the County, in 1990, established a wetland mitigation bank at the FSWA (formerly known as the Mid-City Ranch property) in agreement with CDFG (see Letter of Understanding, Exhibit No. 10). The FSWA historically was tidal marsh habitat of Humboldt Bay, but at the time of acquisition by CDFG in 1990, the area was diked, partially drained, and partially filled for agricultural use (fill placement had occurred approximately 75 to 100 years prior). Under the 1990 agreement between the County and CDFG, the County agreed to remove structures, portions of old levees and road fills, and to construct approximately 500 feet of new levees for the purpose of water impoundment and management of water levels at the FSWA by CDFG. It was agreed that in exchange for the wetland acreage that would be created from restoration of historic fill sites at the FSWA, the County would receive 11.57 acres of wetland mitigation credits. The Commission issued a coastal development permit for the restoration work at the FSWA in 1989 (CDP No. 1-89-31; Exhibit No. 19), and the restoration work was conducted in 1992.

The County conducted a wetland delineation and assessment and prepared an associated report in March of 2001 entitled *Wetland Mitigation Monitoring for the Fay Slough Mitigation Bank, Humboldt County, CA*, which details the success of the wetland restoration efforts at the FSWA. The report concluded that a total of 10.67 acres of wetland mitigation credit were available to the County based on the acres of wetland creation achieved at the site. In 1990 the Commission issued a permit for the Elk River Road widening project (CDP No. 1-90-38; Exhibit No. 20) authorizing the use of 0.73-acre of wetland credits at the bank as off-site, in-kind mitigation for impacts from that road widening project. Additionally, in 1993 the County sold two acres of its wetland mitigation credit to the City of Eureka. Therefore, at this time, the FSWA wetland mitigation bank has a total of 7.94 acres of available wetland mitigation credit (see account summary, Exhibit No. 9). The CDFG concurs with the County's wetland mitigation bank account summary to date (see Exhibit No. 10).

Of the remaining 7.94 acres of wetland mitigation credit available at the FSWA wetland mitigation bank, ~1.58 acres of credit are of the "freshwater marsh" wetland type and ~6.36 acres of credit are of the "seasonal wetland" type, as described in the County's 2001 monitoring report referenced above (see report excerpts, Exhibit No. 11). The freshwater marsh wetland habitat created at the FSWA supports 1-ft to 2-ft of water in the winter and spring, with the managed water levels receding during the remainder of the year. The "freshwater marsh" wetland type supports obligate (OBL) wetland plant species such as cattail (*Typha latifolia*), soft rush (*Juncus effusus*), spikerush (*Eleocharis macrostachya*), water parsley (*Oenanthe sarmentosa*), water foxtail (*Alopecurus geniculatus*), and Pacific silverweed (*Potentilla anserina* ssp. *pacifica*). It also provides habitat for a number of waterfowl and other bird species and various aquatic organisms. The "seasonal wetland" type is dominated by hydrophytic to just slightly hydrophytic grasses and herbs such as velvet grass (*Holcus lanatus*, FAC), bluegrass (*Poa trivialis*, FACW), bentgrass (*Agrostis stolonifera*, FACW), water foxtail, bird's-foot trefoil (*Lotus corniculatus*, FAC), perennial ryegrass (*Lolium perenne*, FAC*), Pacific silverweed, curly dock (*Rumex crispus*, FACW-), creeping buttercup (*Ranunculus repens*, FACW), and others. This wetland type is sometimes referred to as "agricultural wetland" and is functionally equivalent to the "coastal prairie seasonal wetland" described in Exhibit No. 7, 0.32-acre of which the County proposes to impact under this amendment request.

The County is proposing to debit a total of 2.53 acres of wetland mitigation credit from the FSWA bank to compensate for permanent wetland impacts associated with the amended development. As described above, this includes impacts to 1.85 acres of coastal scrub wetlands, 0.32-acre of coastal prairie seasonal wetland, 0-23 acre of riparian/arboreal wetland, and 0.13-acre of freshwater marsh wetlands as generally described and shown in Exhibit Nos. 6 and 7. The specific wetland areas that the County proposes to debit from the FSWA are shown in Exhibit Nos. 9 and 11 and include 1.58 acres of "freshwater marsh" credit and 0.95-acre of "seasonal wetland" credit. Table 3 below summarizes the types of wetlands proposed to be impacted by the County and the types of wetland mitigation credits available at the FSWA wetland mitigation bank that the County is proposing to debit as compensation for permanent wetland impacts.

Table 3. Summary of wetland types to be impacted by proposed amended development and wetland types proposed to be debited from the FSWA wetland mitigation bank to compensate for project impacts. Amounts of each type are approximate.

Permanent Wetland Impacts Resulting from the Old Arcata Road/Myrtle Avenue Widening & Rehabilitation Project, Post Mile (PM) 3.77 to PM 6.75	
Wetland types to be impacted by proposed amended development	**Amount[1] of wetlands to be impacted by proposed amended development (acres)**
Coastal scrub[2]	1.85
Coastal prairie seasonal wetland[2]	0.32
Freshwater marsh/Riparian/Arboreal Wetland	0.23

(at Cox Corner)	
Freshwater marsh[2]	0.13
Total	*2.53*

Proposed Off-Site Wetland Mitigation Compensation at the Fay Slough Wildlife Area (FSWA) Wetland Mitigation Bank	
Wetland types[3] proposed to be debited from the FSWA wetland mitigation bank	**Amount of wetlands proposed to be debited from the FSWA wetland mitigation bank**
Seasonal freshwater marsh[3]	1.58
Seasonal wetland (functionally equivalent to "coastal prairie seasonal wetland" above)[3]	0.95
Total	*2.53*

[1] All amounts are approximate.

[2] See Exhibit No. 7 for general descriptions of each wetland type.

[3] See Exhibit No. 11 for descriptions of the specific wetland mitigation areas proposed for debit.

As shown in the above table, the County is proposing to mitigate for wetland impacts at a 1-to-1 mitigation ratio for impacts to all wetland types for the following reasons:

- Because the wetlands created off-site at the FSWA wetland mitigation bank have been in existence for approximately 15 years, they are established, functional habitats. Therefore, there will be no temporal loss (and in fact there is a temporal gain) of wetland habitat function and value between the time of proposed wetland impact and the time of mitigation implementation.
- The majority of wetlands to be impacted by the amended development are "coastal scrub wetlands" in and adjacent to roadside ditches to be filled due to road widening activities. Most of these coastal scrub wetlands are dominated by nonnative invasive vegetation and are controlled in many locations by mowing. Due to the level of direct disturbance by mowing and the indirect effects of roadway runoff, most of the coastal scrub areas are considered to be low-quality wetlands.
- As described in more detail below in Section IV-B-3, the County is proposing to enhance on-site wetland habitat by planting approximately 5,600 square feet (0.13-acre) of native, regionally appropriate riparian vegetation at three locations: along the newly created Cochran Creek channel, at Cox Corner, and at the crossing of the tributary to Rocky Gulch.

2. Proposed "Temporary" Wetland Impacts

In addition to the proposed permanent wetland impacts and off-site mitigation described above, the County proposes to mitigate for "temporary" impacts to 0.72-acre of roadside ditch wetlands on-site through the creation of new roadside ditches of equivalent or greater size than those filled for the amended development. Exhibit No. 6 depicts the wetland areas to be impacted on aerial photos of the project area. Additionally, the cross-sections included with the project plans (Exhibit No. 5) show the existing and proposed roadside ditches. After constructing the new roadside ditch replacement wetlands, the County proposes to seed the

areas with a native grass seed mix and mulch them for erosion control.

As described above under Section IV-A-4, the amended development includes the improvement, extension, or replacement of a total of 12 road-crossing culverts. Two of the 12 existing culverts will be replaced with culverts designed for fish passage, while the remaining 10 culverts will be improved or extended for drainage/flooding alleviation purposes. The proposed culvert work is summarized in Table 1 above.

3. Additional Proposed Wetland Enhancement

The County has proposed a Revegetation Plan (Exhibit No. 14) to minimize impacts to and restore disturbed areas at three locations: Cochran Creek (which is a perennial tributary to Fay Slough), Cox Corner (intermittent tributary to Fay Slough), and the unnamed tributary to Rocky Gulch. At these three locations combined, the County proposes to enhance wetland habitat by planting approximately 5,600 square feet (0.13-acre) of native, regionally appropriate riparian vegetation. At Cochran Creek for example, the County proposes to fill an approximately 220-foot-long stretch of channelized creek and recreate a new creek channel approximately 20 feet to the west. The vegetation along the existing channelized creek stretch to be filled includes mostly nonnative "coastal scrub" wetland vegetation (*e.g.*, Himalayan blackberry, *Rubus discolor*). After creating the new creek channel, the County proposes to revegetate an approximately 2,800 square foot (0.06-acre) area around the creek channel with native, regionally appropriate riparian vegetation consisting of red alder, big leaf maple, black huckleberry, slough sedge, softstem bulrush, California tule, red flowering currant, twinberry, and mixed bareroot transplants (Exhibit No. 14). The County proposes to use the same mix of native riparian species in an approximately 800 square foot area around the tributary to Rocky Gulch road crossing after the new fish-friendly culvert is installed. At Cox Corner, while the amended development (road realignment eastward to straighten the sharp curve) will impact approximately 2,200 square feet of coastal scrub wetland and 10,000 square feet of freshwater marsh and mature riparian habitat (large willow trees), the County proposes to plant approximately 2,000 square feet of riparian vegetation along the newly created roadside ditch (which will be approximately 2,200 square feet in size). Thus, the County's proposed revegetation with riparian species across ~5,600 square feet (0.13-acre) at these three locations will account for approximately half of the actual riparian impacts at Cox Corner.

C. PROTECTION OF MARINE RESOURCES, WATER QUALITY, & WETLANDS

1. Coastal Act & Humboldt County Local Coastal Program Policies:

Coastal Act Section 30230 (incorporated also as an LUP Policy in Humboldt Bay Area Plan Section 3.30(B)(8)) states the following (emphasis added):

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will*

maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act Section 30231 (incorporated also as an LUP Policy in Humboldt Bay Area Plan Section 3.30(B)(8)) states the following (emphasis added):

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30233 (incorporated also as an LUP Policy in Humboldt Bay Area Plan Section 3.30) states the following (emphasis added):

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge

spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary…

(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients which would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for such purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

2. Consistency with Coastal Act and LCP Policies:

Coastal waters and wetlands occur throughout the project area both in areas of the Commission's retained jurisdiction and in areas certified under the Humboldt County LCP (see Exhibit Nos. 3 and 6). The amended development proposed for the ~1.36 miles of the project area from Stations 7+320 to 8+550 and from Stations 9+970 to 10+930 is located within the Commission's retained jurisdiction (including Cochran Creek, Rocky Gulch, the unnamed tributary to Rocky Gulch, and the Cox Corner freshwater marsh/riparian/arboreal wetland complex and intermittent tributary to Fay Slough). Thus, the standard of review that the Commission must apply to this portion of the project is Chapter 3 of the Coastal Act.

The amended development proposed for the ~1.76 miles of the project area from Stations 5+900 to 7+320 and from Stations 8+550 to 9+970 is located within an area certified under the Humboldt County LCP. Thus, the amended development within the area certified under the LCP must be reviewed for conformance with the water quality and habitat protection policies of the LCP. This portion of the project area within the certified area crosses Redmond Creek (a tributary to Fay Slough) and also lies adjacent to coastal wetlands throughout much of its length.

Although portions of the project are subject to the Chapter 3 policies of the Coastal Act and portions of the project are subject to the Humboldt County LCP, the relevant Chapter 3 policies (Sections 30230, 30231, and 30233) have been incorporated as LUP Policies into the Humboldt Bay Area Plan (HBAP). Accordingly, in finding the amended development consistent with the relevant Chapter 3 policies of the Coastal Act, the Commission is also finding the amended development consistent with the identical policies of the HBAP.

The amended development proposes to permanently impact (fill) 3.25 acres of wetlands for activities associated with road widening and storm drainage improvements. The wetlands to be filled vary in type (see Exhibit No. 7) and quality, ranging from roadside ditch wetlands

dominated by nonnative vegetation that is mowed on a regular basis to high quality perennial wetlands with mature riparian/arboreal wetland vegetation.

Coastal Act Sections 30230, 30231, and 30233 cited above, incorporated as an LUP policy in HBAP Section 3.30, set forth a number of limitations on development in coastal waters, wetlands, and estuaries. For analysis purposes, the limitations can be grouped into four general categories or tests. These tests are as follows:

A. That the purpose of the filling, diking, or dredging is for one of the seven uses allowed under Section 30233;

B. That the project has no feasible less environmentally damaging alternative;

C. That feasible mitigation measures have been provided to minimize adverse environmental effects; and

D. That the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

Each category is discussed separately below.

A. Permissible Use for Fill

The first test set forth above is that any proposed filling, diking, or dredging in wetlands must be for an allowable purpose as specified under Section 30233 of the Coastal Act. The relevant category of use listed under Section 30233(a) that relates to the proposed road widening is subcategory (4), stated as follows:

> *(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*

To determine if the proposed filling is for an incidental public service purpose, the Commission must first determine that the proposed filling is for a public service purpose. The project involves road widening activities, resulting in the filling of roadside ditches and other adjacent wetlands along an approximately three mile stretch of County roadway. Work would be conducted within the County of Humboldt's easement, and the proposed project would be undertaken by a public agency. Therefore, the Commission finds that the fill is for a public service purpose consistent with Section 30233(a)(4).

The Commission must next determine if the fill is for an "incidental" public service purpose. The proposed amended development would permanently impact approximately 3.25 acres of coastal wetland habitat (primarily associated with roadside ditches). The stated purpose of the development is twofold: (1) to improve safety along the corridor for motor vehicles, pedestrians, and bicyclists; and (2) to upgrade the road to current County standards. The sections of roadway approved for widening were last improved in 1946 and have travel lanes varying in width between 10 and 12 feet, inadequate or nonexistent shoulders, poor sight

distance on curves, non-standard intersections, and ditches and power poles close to the edge of pavement. The substandard road conditions increase the accident potential when drivers are confronted with an emergency and have no room to recover, and there have been a number of injury and fatal accidents in the corridor over the years. Thus, the Commission finds that the filling of roadside ditches and other coastal wetlands adjacent to the roadway to improve the road for public safety purposes is incidental to the existing road's primary transportation purpose.

Therefore, the Commission finds that for the reasons discussed above, the filling of approximately 3.25 acres of coastal wetlands for the amended development is for an incidental public service purpose, and thus is an allowable use pursuant to Section 30233(a)(4) of the Coastal Act.

B. Alternatives Analysis

The second test set forth by the Commission's fill policies is that the proposed fill project must have no feasible less environmentally damaging alternative. Coastal Act Section 30108 defines "feasible" as follows:

> *"Feasible" means capable of being accomplished in a successful manner within a reasonable time, taking into account economic, environmental, social, and technological factors.*

The County completed an alternatives analysis (Exhibit No. 8), which examined four alternatives to the amended development in addition to the proposed alternative. These include (1) the no-project alternative; (2) improving the road without affecting wetlands; (3) constructing a new facility on a new location; and (4) constructing the project with retaining walls. As explained below, each of these alternatives analyzed in the alternatives analysis are infeasible and/or do not result in a project that is less environmentally damaging than the proposed project:

(1) No-Project Alternative

The County found the no-project alternative to be the environmentally superior alternative because no impacts to wetlands or coastal waters would occur, but the alternative does not achieve the project purpose and need, which is to improve public safety along the corridor and upgrade the road to current County standards. Accordingly, taking into consideration the economic, environmental, and social factors, the no project option is not a feasible less environmentally damaging alternative.

(2) Improving the Road Without Affecting Wetlands

Due to the location of the project on the edge of former bay wetlands and surrounding by coastal waters and wetlands throughout the project area, there is no project design that would achieve the project purpose and need without affecting wetlands. Therefore, improving the road without affecting wetlands is not a feasible less environmentally damaging alternative.

(3) Constructing a New Facility on a New Location

A new roadway location that avoids any impacts on wetlands would involve one of two possible traffic service scenarios. First, retaining the existing roadway for local traffic service would require the County to maintain two facilities in the same corridor, thus increasing the maintenance burden. A new road on a new alignment west of the existing road would result in a much greater impacts on wetlands. A new road on a new alignment to the east is not feasible due to the geography, which would necessitate passing over mountains and valleys and would require a much higher level of funding and would require substantial landform alteration and habitat destruction. Second, removing the existing roadway would involve the high cost of obliterating the existing road and developing new access for more than 100 parcels of land within the project limits. Therefore, constructing a new facility on a new location is not a feasible less environmentally damaging alternative.

(4) Construction the Project With Retaining Walls

The County considered constructing the project with retaining walls along the edges of the shoulders to reduce the encroachment of fill into wetlands for shoulder slopes. This alternative was deemed infeasible by the County due to project length and the cost of constructing retaining walls along half the alignment. In addition, excavations to establish foundations for the retaining walls would encroach into and disturb the adjoining wetlands to a similar degree as placing fill for shoulder slopes under the proposed amended development. Therefore, constructing the project with shoulder edge retaining walls is not a feasible less environmentally damaging alternative.

Therefore, for all of the reasons discussed above, the Commission finds that there is no less environmentally damaging feasible alternative to the amended development as conditioned, as required by Section 30233(a).

C. Feasible Mitigation Measures

The third test set forth by Section 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. The amended development would be located within and around coastal waters and wetlands. Depending on the manner in which the proposed project is conducted, the project could have significant adverse impacts on (1) wetland habitat, (2) water quality, and (3) sensitive fish species. The potential impacts and their mitigation are discussed below in the following sections.

(1) Wetland Habitat

As discussed above in Section IV-B above, approximately 3.25 acres of coastal wetlands will be impacted by the amended development. A total of 2.53 acres of “permanent wetland impacts” are proposed to be mitigated at a 1:1 ratio off-site at the Fay Slough Wildlife Area (FSWA) wetland mitigation bank, including 1.85 acres of coastal scrub wetlands, 0.32-acre of coastal prairie seasonal wetlands, 0.23-acre of riparian/arboreal wetlands at Cox Corner, and

0.13-acre of freshwater marsh wetlands (see Exhibit No. 7 for descriptions). Additionally, 0.72-acre of "temporary wetland impacts" are proposed to be mitigated on-site through the creation of new roadside ditches of equivalent or greater size.

The wetlands to be impacted vary in kind and relative value. For example, much of the coastal scrub wetlands consist of nonnative vegetation (*e.g.*, Himalayan blackberry) and occur along roadside ditches that are regularly mowed. Due to the level of direct disturbance by mowing and the indirect effects of roadway runoff, most of these coastal scrub areas are considered to have less habitat value and functions than other more complex wetland types. Other wetlands to be impacted by the amended development are of higher value, such as the 0.23-acres of freshwater marsh/riparian/arboreal wetland habitat at Cox Corner, which supports mature willows and other well established riparian vegetation, which in turn supports greater amounts of wildlife. The EIR prepared for the project describes this wetland complex as supporting potential habitat for a variety of species including numerous birds, amphibians, and native wetland and riparian vegetation.

As discussed above, the County is proposing to debit a total of 2.53 acres of wetland mitigation credit from the FSWA wetland mitigation bank to compensate for "permanent" wetland impacts associated with the amended development. The County proposes to compensate for the remaining 0.72-acre of wetland impacts on site through the creation of new roadside ditches of equivalent size. In addition to the County's proposed 1-to-1 mitigation ratio, the County also proposes to enhance wetland habitat on site by planting approximately 5,600 square feet (0.13 acres) of native, regionally appropriate riparian vegetation (see Exhibit No. 14). This area of riparian planting equates to approximately half of the riparian/arboreal wetland vegetation that is proposed to be impacted at Cox Corner. As discussed above, the County is proposing to mitigate for all wetland impacts at a 1-to-1 ratio for the following reasons:

- Because the wetlands created off-site at the FSWA wetland mitigation bank have been in existence for approximately 15 years, they are established, functional habitats. Therefore, there will be no temporal loss (and in fact there is a temporal gain) of wetland habitat function and value between the time of proposed wetland impact and the time of mitigation implementation;
- The majority (1.8 acres) of wetlands to be impacted by the amended development are "coastal scrub wetlands" in and adjacent to roadside ditches, most of which are dominated by nonnative invasive vegetation, are directly disturbed regularly by mowing, and are further impacted by polluted roadway runoff; and
- The County is proposing to enhance on-site wetland habitat by planting approximately 5,600 square feet (0.13-acre) of native, regionally appropriate riparian vegetation at three locations: along the newly created Cochran Creek channel, at Cox Corner, and at the crossing of the tributary to Rocky Gulch.

The off-site mitigation wetlands at the FSWA were created over 15 years ago and are well established and functioning. The wetlands proposed for debit (see Table 3 above and Exhibit No. 11 for wetland descriptions) are generally seasonal freshwater marsh wetlands. Thus,

many of the functions these seasonal wetlands provide are available for only part of the year (e.g., habitat for aquatic organisms and wetland-associated bird species). The "seasonal freshwater marsh" and "seasonal wetlands" (equivalent to "agricultural wetlands" or "coastal prairie seasonal wetlands") at the FSWA provide wetland habitat values that are generally equivalent to the habitat values of most of the wetland habitat to be filled by the amended development. The Commission finds that the County's proposal to debit mitigation credits from the FSWA wetland mitigation bank at a 1-to-1 ratio for impacts to certain kinds of wetlands in the project area, including coastal scrub wetlands, coastal prairie seasonal wetlands, and additional freshwater marsh wetlands (other than the 0.23-acre of riparian/arboreal wetlands to be impacted at Cox Corner), is adequate because (1) as discussed above, the majority of the coastal scrub wetlands to be impacted are of low value, dominated by nonnative vegetation, and provide little value for wildlife habitat or other functions; and (2) the coastal prairie seasonal wetlands and freshwater marsh wetlands (not including the riparian/arboreal/marsh wetlands at Cox Corner discussed above) to be filled are functionally equivalent to the "seasonal wetland" and "seasonal freshwater marsh" (respectively) mitigation credits proposed to be debited at the FSWA wetland mitigation bank.

However, the wetlands at the FSWA are arguably of lower habitat value than the freshwater marsh and associated riparian/arboreal wetlands at Cox Corner that will be impacted by the amended development, which provide year-round and more diverse wetland habitat with more complex structure. Therefore, because (1) the riparian/arboreal wetland habitat to be impacted at Cox Corner is a substantially different kind of wetland of arguably higher quality and greater habitat value than the FSWA wetlands proposed for debit to compensate for these impacts, (2) the County's proposal to establish 5,600 square feet (0.13-acre) of riparian vegetation in three locations in the project area to enhance wetland habitat around Cochran Creek, Cox Corner, and the tributary to Rocky Gulch only accounts for roughly half of the riparian/arboreal wetland impacts, and (3) there will be a temporal loss between the time of riparian/arboreal wetland impacts and the establishment of a functional riparian habitat around Cochran Creek, Cox Corner, and the tributary to Rocky Gulch as proposed, the Commission finds that a greater than 1-to-1 mitigation ratio is necessary to compensate for impacts to the 0.23-acre of riparian/arboreal wetlands at Cox Corner.

Restoration of habitat values and functions at any new riparian/arboreal wetlands as created as mitigation for the wetland fill impacts of the amended development will require a number of years to establish, and even then success is uncertain. Adaptive management will likely be required as the outcome of the wetland creation is monitored. The establishment of the mature, self-sustaining riparian/arboreal wetland habitat functions could take a decade or longer to achieve. Therefore, the period between the time the development first affects the wetland habitat and when wetland values are fully restored by the proposed mitigation is relatively long and the temporal loss of habitat values would, therefore, be significant. In approving coastal development permits for wetland fill projects with temporal loss in recent years, the Commission has most often required a mitigation ratio of wetland mitigation to wetland fill of at least 4:1, in part to account for temporal loss, and in part to account for the uncertainty of success that the wetland mitigation will be fully successful in establishing the wetland values the mitigation is intended to provide. For example, in approving Coastal Development Permit No. 1-07-013 for the replacement of the Highway 101 Mad River Bridge

in Humboldt County, the Commission required a mitigation ratio of 4:1. The Commission has not approved coastal development permits for wetland fill development in recent years with mitigation ratios as low as the applicant proposes. Therefore, the Commission finds that mitigation for the impacts of the amended development on riparian/wetland arboreal wetlands shall be provided at a ratio of 4:1.

Accordingly, the Commission attaches Special Condition No. A4-4. This condition requires the applicant to submit, prior to issuance of the CDP Amendment for the review and approval of the Executive Director, a final wetland mitigation plan that includes additional mitigation to compensate for impacts to the riparian/arboreal wetland habitat at Cox Corner. The special condition requires that the plan (1) provide for mitigation at a 1:1 ratio that would result in compensation for the filling of 0.72-acre of roadside ditch wetlands (primarily "coastal scrub" wetlands), which are to be mitigated on-site through the creation of new roadside ditch wetlands of the same acreage; (2) provide for off-site mitigation for the filling of 2.30 acres of wetlands (1.85 acres of "coastal scrub" wetland, 0.32-acre of "coastal prairie seasonal wetland," and 0.13-acre of "freshwater marsh" wetland) at a 1-to-1 ratio by debiting the same area of wetland credits from the FSWA wetland mitigation bank where equivalent habitat and values have already been restored; and (3) provide for mitigation to compensate for the filling of 0.23-acre of riparian/arboreal wetlands (at Cox Corner) either in the form of (a) creating new (in-kind) riparian wetland habitat (either on-site or off-site) at a 4-to-1 ratio or (b) debiting a higher amount of mitigation credits from the FSWA wetland mitigation bank at a ratio of 8-to-1 where out-of-kind, less valuable seasonal wetland and seasonal freshwater marsh have been created. A higher ratio of mitigation to compensate for the loss of riparian habitat is required if the applicant chooses to mitigate by claiming additional credits at the FSWA wetland mitigation bank because this form of mitigation would compensate the loss of high value riparian/arboreal wetlands with lower value seasonal freshwater wetlands.

This condition also requires that the final wetland mitigation plan must demonstrate that only habitat-specific, regionally appropriate, native species shall be used, that revegetation shall achieve a success standard of at least 80 percent survival, and rodenticides containing any anticoagulant compounds shall not be used. Furthermore, the condition requires that the plan include provisions for monitoring the success of the revegetation efforts at the on-site wetland mitigation areas and at the riparian vegetation planting sites along the realigned Cochran Creek Channel, at Cox Corner, and at the tributary to Rocky Gulch Crossing.

To ensure that the proper amount of wetland credits are debited from the FSWA wetland mitigation bank, Special Condition No. A4-4 requires the final wetland mitigation plan to include provisions for requiring certification from the CDFG that the Department agrees to the use of the bank for this purpose and that there is sufficient credit remaining at he bank to accommodate the total amount of wetland credits claimed by the applicant. In addition, the Commission attaches Special Condition No. A4-5. This condition requires the permittee to submit, within 90 days of issuance of the permit amendment for the review and approval of the Executive Director, a revised account summary for the FSWA wetland mitigation bank (to be prepared in consultation with the CDFG) that is updated to reflect the appropriate debit amount for wetland impacts associated with CDP Amendment No. 1-86-200-A4. The revised account summary is to include an updated map of the FSWA wetland mitigation bank

showing the amount and type of wetland credits debited to date as well as wetland credits potentially available for future use.

The Commission finds that the proposed amended development, as conditioned, includes all feasible mitigation measures to minimize all significant adverse impacts to coastal wetland habitats consistent with Section 30233 of the Coastal Act. The mitigation measures required to minimize impacts to water quality and sensitive fish species, which will further minimize significant adverse impacts to the functional capacity of coastal waters and wetlands, are discussed in sections (2) and (3) below.

(2) Water Quality

As discussed above, the proposed amended development involves construction adjacent to Redmond Creek, Cochran Creek, an unnamed tributary to Fay Slough, Rocky Gulch, an unnamed tributary to Rocky Gulch, and adjacent coastal wetlands, and potential adverse impacts to the water quality of these water bodies could occur in the form of sediment disturbance and transport and from the accidental discharge of hazardous fuels or other substances from the construction equipment to sensitive habitat areas.

As discussed below in section (C)(3) regarding sensitive fish species, the amended development proposes to incorporate various construction measures to minimize the potential for sediment mobilization, which could result in significant adverse water quality impacts in the form of increased turbidity. The County proposes the use of various BMPs to help protect water quality such as silt fencing and other erosion and sediment control measures, seeding and mulching all disturbed areas after construction activities, restricting the construction window around coastal waters to the dry season, and other measures (see Exhibit No. 12).

Although the measures proposed are appropriate, in some cases they do not go far enough or are not specific enough to ensure protection of coastal waters and wetlands. For example, the proposed erosion control measures do not assure that no construction materials or spills will enter coastal waters, that all construction debris will be properly disposed of, and that erosion control measures will be effectively in place for the duration of project activities. Therefore, the Commission attaches Special Condition No. A4-1, which specifies various construction protocols that must be implemented for the duration of the project, including (A) no construction materials, debris, or waste shall be placed where it may be subject to entering coastal waters or wetlands; (B) construction activities shall be restricted to the dry season period of April 15 through October 15; (C) if rainfall is forecast during the time construction activities are being performed any exposed soil areas shall be promptly mulched or covered with plastic sheeting secured with sand bagging or other appropriate materials before the onset of precipitation; (D) any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion in accordance with Special Condition No. A4-3 (see below); (E) during construction, all trash shall be properly contained, removed, and disposed of regularly and properly; (F) any debris discharged into coastal waters shall be recovered as soon as possible; (G) any fueling and maintenance of construction equipment shall occur outside of sensitive areas or within designated staging areas; and (H) hazardous materials management equipment shall be ready and available on-

site and a professional clean-up/remediation service shall be locally available on call if necessary. Additionally, the Commission attaches Special Condition No. A4-3, which requires the applicant to submit to the Executive Director for review and approval (prior to the issuance of the permit amendment) a debris disposal plan demonstrating that all materials including concrete, soil and vegetation spoils, other debris, etc. shall be removed completely from the project area and lawfully disposed of at an approved upland location.

The applicant proposes to produce and implement an erosion control plan or Stormwater Pollution Prevention Plan (SWPPP) for the amended development, which provides for the following: (a) discharge from dewatering operations and runoff from disturbed areas shall conform to water quality conditions required by the waste discharge permit issued by Regional Water Quality Control Board; (b) material stockpiles shall be located in non-traffic areas only; side slopes shall not be steeper than 2:1; all stockpile areas shall be surrounded by a filter fabric fence and interceptor dike; (c) erosion control will be applied throughout construction of the project; the SWPPP will detail the application, type, and exposure of unprotected soils; (d) soil exposure shall be minimized through the use of temporary BMPs, ground cover, and stabilization measures; exposed dust-producing surfaces shall be wetted daily if necessary; paved streets shall be swept daily following construction activities; (e) removal of all temporary erosion and sediment control measures shall be done after the working area is stabilized or as directed by the engineer; (f) an appropriate seed mix of native species shall be planted on disturbed areas upon completion of construction; and (g) sandbagged silt fences shall be installed in all named and unnamed waterways in which construction work occurs, both upstream and downstream of the construction site; any accumulated sediment shall be removed and taken to an approved upland disposal site.

To ensure that this plan is produced as proposed, the Commission attaches Special Condition No. A4-2, which requires submittal of a final erosion and runoff control plan prior to issuance of the permit amendment. The plan requires that various erosion control procedures to be implemented, including those specified above as well as others such as (1) runoff from the project site shall not increase sedimentation in coastal waters; (2) runoff from the project site shall not result in pollutants entering coastal waters; (3) BMPs shall be used to prevent the entry of polluted stormwater runoff into coastal waters during the construction activities; and (4) only the minimum amount of vegetation necessary to construct the project shall be removed.

Therefore, the Commission finds that the amended development, as conditioned, includes all feasible mitigation measures to minimize all significant adverse impacts to water quality consistent with Section 30233 of the Coastal Act. The Commission further finds that the biological productivity and quality of coastal waters will be maintained and the project, as conditioned, is consistent with Sections 30230 and 30231 of the Coastal Act.

(3) Sensitive Fish Species

The coastal waters in the project area, including Redmond Creek (a tributary to Fay Slough) Cochran Creek (a tributary to Fay Slough), the unnamed intermittent tributary to Fay Slough, Rocky Gulch, and the unnamed tributary to Rocky Gulch, provide potential habitat for a

number of marine species. The Southern Oregon/Northern California Coast Evolutionary Significant Unit (ESU) of coho salmon and the Coastal California ESU of chinook salmon are listed under the federal Endangered Species Act (ESA) as "threatened." Chinook (or king) salmon (*Oncorhynchus tshawytscha*) spawns in upstream reaches of stream tributaries to Humboldt Bay, but young fish are believed to spend several months during their first year "rearing" in the estuary. Coho (or silver) salmon (*Oncorhynchus kisutch*) also spawn in upstream reaches, and their young also spend time in the estuary before first entering the ocean. In addition, adults of both species spend time in the estuary when returning to the basin to spawn, "holding" there while waiting for fall rains to bring river levels up enough to allow upstream migration. The third salmonid species of concern in the project vicinity is steelhead (*Oncorhynchus mykiss*), a seagoing trout. Steelhead have a life history similar to that of chinook and coho, although the steelhead (which is closely related to non-seagoing rainbow trout), find appropriate habitat conditions in smaller streams, and in more upstream reaches than do the larger salmonids. The Northern California steelhead ESU is presently listed under the federal Endangered Species Act as "threatened." An additional fish species of concern in the project area is the coastal cutthroat trout (*Oncorhynchus clarki clarki*), a resident salmonid in coastal streams in northern California and southern Oregon. This species is a "species of special concern" for the Department of Fish and Game, but is not listed under either the federal or state Endangered Species Act. Coastal cutthroat trout have been documented in many streams in the Humboldt Bay basin, and are presumed to be present in all the perennially flowing tributary streams to Humboldt Bay. All of the life requisites for this species are provided by the conditions in the streams in which it resides. Finally, Fay Slough downstream from the project area provides habitat for an additional federally listed fish species, the tidewater goby (*Eucyclogobius newberryi*), a species currently listed as "endangered" under the federal Endangered Species Act. Tidewater gobies occur in near-estuarine tidal stream bottoms, with varying salinities and substrates generally of fine (*i.e.*, silty to clayey mud) materials.

The U.S. Fish and Wildlife Service (FWS) and NOAA-Fisheries both completed formal consultations/biological opinions (BO) in 2003 for the project as amended under CDP Application No. 1-86-200-A2 (which was ultimately withdrawn). At that time, the project involved not only the in-stream culvert replacement work and Cochran Creek channel realignment work as currently proposed under this amendment request, but also pile driving within Ryan Slough for bridge widening purposes. In the formal consultations/BOs, FWS and NOAA-Fisheries anticipated take of gobies and salmonids (respectively) primarily as a result of pile driving and other in-water work activities in habitat considered suitable for the species. As the Ryan Slough work has been split off from the proposed amended development (see CDP Amendment Application No. 1-86-200-A3), impacts to the sensitive fish species are expected to be less than previously anticipated. Both consultations concluded that the amended development would not likely jeopardize the continued existence of the sensitive fish species or adversely modify any designated critical habitat.

Tidewater gobies do not occur within the project area, but tidewater goby habitat does occur downstream of the work area in the tidal reaches of Fay Slough and Rocky Gulch. As gobies are particularly sensitive to habitat sedimentation and changes in water quality, work within coastal waters in the project area (including culvert replacements and Cochran Creek channel

realignment) could directly impact gobies in those downstream reaches under tidal influence if sediments or other pollutants are mobilized into the water bodies. Increased input of sediment has the potential to degrade spawning habitat and to increase turbidity, possibly reducing feeding efficiency of gobies. According to the FWS biological opinion, the effect of suspended sediments on water quality may extend downstream to several acres of tidal slough. Indirect sedimentation resulting from the amended development also could occur downstream of the project area during the rainy season following construction and during future maintenance activities of the roadside channels at and near the culvert replacement sites.

According to the NOAA-Fisheries biological opinion, steelhead trout are anticipated to be present in perennial streams in the project area during the time of construction. Chinook salmon generally are only found in the largest streams of Humboldt Bay (Freshwater Creek, Ryan Slough, Jacoby Creek, and Elk River), and coho salmon are expected to have either out-migrated already or be further upstream in the watershed than the proposed project. As with the tidewater goby, habitat sedimentation and changes in water quality also are cited in the biological opinion as the primary factors affecting salmonid spawning and rearing habitat. Other adverse effects of the amended development on salmonids could result from fish relocation, dewatering, removal of riparian vegetation, construction in stream channels, bank stabilization with rock slope protection, stream crossing upgrades, and other effects. Aside from these adverse effects, the amended development is also anticipated to have a beneficial effect on salmonids. The proposed new culverts designed to NOAA-Fisheries standards will provide long-term benefits by improving passage for salmonids in the tributary to Rocky Gulch and the tributaries to Fay Slough, thereby increasing the availability of rearing habitat.

To minimize the potential for habitat sedimentation and water quality degradation related either directly or indirectly to the amended development, the Commission, as discussed above, requires Special Condition Nos. A4-1, A4-2, and A4-3. Special Condition No. A4-1 requires the permittee to comply with specific construction practices, Special Condition No. A4-2 requires submittal of a final erosion and sediment control plan, and Special Condition No. A4-3 requires submittal of a final debris disposal plan. Combined, these three special conditions will reduce the project's potential to mobilize sediment and other pollutants into coastal waters and will protect the waters for the benefit of sensitive fish species in the area. The Commission finds that these provisions are feasible mitigation measures that will minimize significant adverse impacts to sensitive fish species.

For in-stream work proposed under this amendment request, it may be necessary to dewater the work areas. As discussed in the NOAA-Fisheries biological opinion, dewatering adversely effects the water quality, habitat structure and quality, flow regime of, and biotic interaction within a stream ecosystem on a short term basis. Dewatering will result in a temporary loss of habitat during the construction period, up to three weeks at each stream crossing. If salmonids are present in the work area, dewatering could strand fish, leading to stress, predation, or mortality. Dewatering also will create short-term migration barriers.

The County prepared a Water Management Plan (Exhibit No. 13) designed to minimize impacts to waterways and fish habitat resulting. The plan proposes to utilize the following

mitigation measures:

- CDFG will be notified five days before any diversion is installed. CDFG personnel will supervise implementation of the diversion plan and oversee safe removal and relocation of salmonids.
- Any equipment work within the stream channel will be performed in isolation from the flowing stream. Flow will be diverted with the use of coffer dams constructed of river gravel or sand bags.
- Prior to the start of construction activities (including diversion installation), fish exclusion fencing will be placed above and below the project reach.
- Any equipment entering the active stream installing a coffer dam will be preceded by an individual on foot to displace wildlife and prevent them from being crushed.
- The suction end of the intake pipe will be fitted with fish screens. Turbid water pumped from the dewatered work site will be disposed of in an upland location.
- Measures will be taken to minimize harm and mortality to listed salmonids resulting from fish relocation and dewatering activities.
    a) Relocation and dewatering from June 15-October 30
    b) Minimize the amount of wetted stream channel that is dewatered to the fullest extent possible
    c) Electrofishing will be performed by a qualified biologist according to *Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act* (NMFS 2000).
- Sediment-laden water created by construction activity will be filtered before it re-enters the stream. Silt fences or other detention methods will be installed to reduce the amount of sediment re-entering the stream.
- If the mitigation measures cannot be implemented or actions cannot be modified to prevent or avoid impacts, activities will be discontinued.

In addition to the County's proposed mitigation measure, the two biological opinions discussed above contain various conservation measures and terms and conditions to protect sensitive fish species in and around the project area.

To ensure that the amended development incorporates all feasible mitigation measures as proposed to minimize all significant adverse effects to sensitive fish species and habitat, the Commission attaches Special Condition No. A4-6. This special condition requires that the permittee comply with all proposed and agency-recommended measures to protect sensitive fish species and fish habitat.

Therefore, the Commission finds that the amended development, as conditioned, includes all feasible mitigation measures to minimize all significant adverse impacts consistent with Section 30233 of the Coastal Act.

D. Maintenance & Enhancement of Marine Habitat Values

The fourth general limitation set by Section 30233 and 30231 is that any proposed dredging or filling in coastal wetlands must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed above, the conditions of the permit will ensure that the project will not have significant adverse impacts on the water quality of any of the coastal waters in the project area and will ensure that the project construction will not adversely affect the biological productivity and functional capacity coastal waters or wetlands. Therefore, the Commission finds that the project, as conditioned, will maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Section 30233, 30230, and 30231 of the Coastal Act.

E. Conclusion

The Commission thus finds that the proposed filling is an allowable use under Section 30233(a) of the Coastal Act, that there is no feasible less environmentally damaging alternative, that feasible mitigation is required to minimize all significant adverse impacts associated with the filling of coastal wetlands, and that the habitat values of coastal waters and wetlands will be enhanced. Therefore, the Commission finds that the proposed amended development, as conditioned, is consistent with Sections 30233, 30230 and 30231 of the Coastal Act.

D. PROTECTION OF ENVIRONMENTALLY SENSITVE HABITAT AREAS

1. Coastal Act & Humboldt County Local Coastal Program Policies:

Coastal Act Section 30107.5 (incorporated in the definition of Environmentally Sensitive Areas in Chapter 5 of the Humboldt Bay Area Plan) states the following:

> *"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Coastal Act Section 30240 (incorporated also as an LUP Policy in Humboldt Bay Area Plan Section 3.30) states the following:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
>
> *(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which*

would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Humboldt Bay Area Plan Section 3.30(B)(1) states the following:

1. Identification of Environmentally Sensitive Habitats

a. Environmentally sensitive habitats within the Humboldt Bay Planning Area include:

(1) Wetlands and estuaries, including Humboldt Bay and the mouth of the Mad River.

(2) Vegetated dunes along the North Spit to the Mad River and along the South Spit.

(3) Rivers, creeks, gulches, sloughs and associated riparian habitats, including Mad River Slough, Ryan Slough, Eureka Slough, Freshwater Slough, Liscom Slough, Fay Slough, Elk River, Salmon Creek, and other streams.

(4) Critical habitats for rare and endangered species listed on state or federal lists. [emphasis added]

2. Consistency with Coastal Act and LCP Policies:

The amended development includes the removal of an additional approximately 325 trees of varying types and sizes for relocation of utility poles (see Exhibit No. 6 for details). The EIR prepared for the project (Jones & Stokes 2001) identified a number of sensitive species with the potential for nesting or roosting in trees in the project area including herons, White-tailed kite, Northern harrier, Cooper's Hawk, Osprey, and potentially other sensitive birds. The trees that are nesting or roosting habitat for sensitive bird species are a form of environmentally sensitive habitat area (ESHA). The ESHA protection policies of the Coastal Act and the LCP require that ESHA be avoided and that only resource-dependent uses are allowed to occur within ESHA. As the proposed major vegetation removal is not for a resource-dependent use but rather for utility pole relocation associated with road widening activities, any sensitive bird species nesting or roosting in trees proposed for removal must be avoided.

To avoid impacts to sensitive nesting or roosting birds, the County proposes to conduct surveys by a qualified biologist for nesting raptors, roosting bald eagles, heron rookeries, and nesting birds protected under the Migratory Bird Treaty Act (MBTA) prior to removal of major vegetation. If any such birds are detected, the County proposes to avoid the tree and contact the CDFG to determine the appropriate "no disturbance" buffer to be established until nesting is complete.

To ensure that any sensitive bird nesting and/or roosting sites located in the project area are

avoided, the Commission attaches Special Condition No. A4-7. This condition requires submittal of a final sensitive bird protection plan, prior to issuance of the permit amendment for the review and approval of the Executive Director, which demonstrates that the areas proposed for major vegetation removal have been surveyed by a qualified biologist in consultation with the CDFG for the presence of active nesting and/or roosting habitat of sensitive bird species. If any sensitive bird nesting and/or roosting sites are located in areas of potential impact, the plan shall ensure that the alignment of the proposed utility line relocation is rerouted to avoid the sensitive habitat areas are avoided and the CDFG contacted to determine the appropriate buffer zone and avoidance timeframe.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30240 and Humboldt Bay Area Plan Section 3.30, as sensitive bird ESHA will be avoided and protected.

E. PUBLIC ACCESS

1. Summary of Coastal Act and LCP Policies:

Section 30210 of the Coastal Act (included in Section 3.50 of the Humboldt Bay Area Plan) requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 of the Coastal Act (included in Section 3.50 of the Humboldt Bay Area Plan) requires that access from the nearest public roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 (included in Section 3.50 of the Humboldt Bay Area Plan) requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area.

In addition, Humboldt Bay Area Plan Section 3.50(C) (Access Inventory) states the following (emphasis added):

…

49. OLD ARCATA ROAD – This 10.0 mile route extends from Arcata to Myrtle Avenue and the Eureka City limits.

RECOMMENDATION: The Humboldt County Trails Plan recommends shoulder improvements for this route in order to improve its utility as a horse/bike/hiking route.

…

In applying Sections 30210, 30211, 30212, and 30214 of the Coastal Act and the public access policies of the LCP, the Commission is also limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse

impact on public access.

2. Consistency with Coastal Act and LCP Policies:

The project site is not located between the sea and the first designated through public road, which is U.S. Highway 101 located approximately 0.5- to 1.5-miles to the northwest of the project area. However, the amended project would be consistent with the direction of the Humboldt Bay Area Plan Section 3.50(C) in improving the Old Arcata Road/Myrtle Avenue corridor for the purpose of public access enhancement. Currently, Old Arcata Road along this stretch is deficient in that there is little or no shoulder that pedestrians and bicyclists can utilize for safety and enjoyment. The proposed amended development will improve the roadway corridor by providing up to 7-ft-wide shoulders on each side of the lanes of traffic, which will enhance pedestrian and bicycle use of the corridor for public access and other purposes.

Furthermore, the amended project would not adversely affect public access. There are no trails or other public roads that provide shoreline access within the vicinity of the project that would be affected by the project. In addition, the amended development would not create any new demand for public access or otherwise create any additional burdens on public access.

Therefore, the Commission finds that the amended development does not have any significant adverse effect on public access, and that the project as proposed, which provides wider shoulders for improved pedestrian and bicyclist safety and enjoyment, is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214 and Humboldt Bay Area Plan Section 3.50.

F. ARCHAEOLOGICAL & CULTURAL RESOURCES

Coastal Act Section 30244 (included in Section 3.18 of the Humboldt Bay Area Plan) provides for protection of archaeological and paleontological resources and requires reasonable mitigation where development would adversely impact such resources.

The diked former tidelands and surrounding areas are located within the ethnographic territory of the Wiyot Indians. Wiyot settlements existed along Humboldt Bay and along the banks of many of the streams and sloughs in this area.

As a requirement for obtaining federal funding for the project, the County prepared a detailed analysis of the cultural (prehistoric and historic) resources in the project area. The County prepared a Historic Property Survey Report, Negative Archaeological Survey Report, and Historic Architectural Survey Report with supporting documentation. These reports, referred to collectively as the Section 106 of the National Historic Preservation Act (NHPA) documentation, are summarized in the Draft Environmental Impact Report prepared for the project (Jones & Stokes 2001).

An archaeological survey of the project area corridor was conducted between 1975-1978 as well as several subsequent surveys conducted on lands adjacent to the study area. Although

no archaeological resources were identified in or adjacent to the project site as a result of the field surveys, there are two known (recorded) sites within 0.5-miles of the project corridor, and the area between Freshwater Corners and Redmond Road is considered particularly sensitive for archaeological resources.

To ensure protection of any archaeological or cultural resources that may be discovered at the site during construction of the proposed project, the Commission attaches Special Condition No. A4-8 that requires the applicant to comply with the recommendations and mitigation measures contained in the EIR prepared for the project by Jones & Stokes (2001). The condition further requires that if an area of cultural deposits is discovered during the course of the project, all construction must cease and a qualified cultural resource specialist must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the applicant is required to submit a supplementary archaeological plan for the review and approval of the Executive Director to determine whether the changes are *de minimis* in nature and scope, or whether an amendment to this permit is required.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30244 and Humboldt Bay Area Plan Section 3.18, as the development will not adversely impact archaeological resources.

G. OTHER AGENCY APPROVALS

The amended development requires review and approval by the U.S. Army Corps of Engineers, the North Coast Regional Water Quality Control Board, and the California Department of Fish and Game (CDFG). Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. To ensure that the project ultimately approved by the Corps, the Board, and the CDFG is the same as the project authorized herein, the Commission attaches Special Condition Nos. A4-9, A4-10, and A4-11, which require the applicant to submit to the Executive Director evidence of the agencies' approvals of the project prior to the commencement of construction (for the Corps' approval) and prior to permit issuance (for the Board's and CDFG's approvals). The conditions require that any project changes resulting from the other agencies' approvals not be incorporated into the project until the applicant obtains any further necessary amendments to this coastal development permit.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The County of Humboldt acted as the lead agency for this project for purposes of CEQA review. The County prepared an Environmental Impact Report for the development and adopted the document on October 15, 2001 following public comment.

Section 13096 of the California Code of Regulations requires Coastal Commission approval of coastal development permit applications to be supported by a specific finding showing the

application, as modified by any conditions of approval, is consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full, including all associated environmental review documentation and related technical evaluations incorporated-by-reference into this staff report. Those findings address and respond to all public comments regarding potential significant adverse environmental effects of the amended development that were received prior to preparation of the staff report. As discussed herein, the amended development has been conditioned to be consistent with the policies of the Coastal Act and the Humboldt County Local Coastal Program, as applicable. As specifically discussed in the above findings, which are hereby incorporated by reference, mitigation measures, which will minimize or avoid all significant adverse environmental impacts, have been required. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the amended development, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and the Humboldt County LCP (as applicable) and to conform to CEQA.

V. EXHIBITS

1) Regional Location Map
2) Vicinity Maps
3) Site Plan Showing Jurisdictional Boundaries & Staging Areas
4) Project Description
5) Project Plans
6) Aerial Photos Showing Tree Removal & Wetland Impact Areas
7) Description of Biological Communities & Wetland Types in the Project Area
8) Alternatives Analysis
9) Fay Slough Wildlife Area Wetland Mitigation Bank Account Summary
10) CDFG Concurrence with the FWSA Wetland Mitigation Bank Account Summary
11) Description of Wetland Types Proposed for Off-Site Mitigation (to be debited from the FSWA Wetland Mitigation Bank)
12) Proposed Mitigation Measures & BMPs
13) Water Management Plan
14) Revegetation Plan
15) Debris Disposal Plan
16) Staff Report for Original Permit CDP No. 80-P-69
17) Immaterial Amendment to CDP No. 80-P-69
18) Revised Findings Staff Report for CDP Amendment No. 1-86-200-A
19) Revised Findings Staff Report for CDP No. 1-89-31 (CDFG)
20) Revised Findings Staff Report for CDP No. 1-90-38 (Humboldt County)

ATTACHMENT A

Standard Conditions:

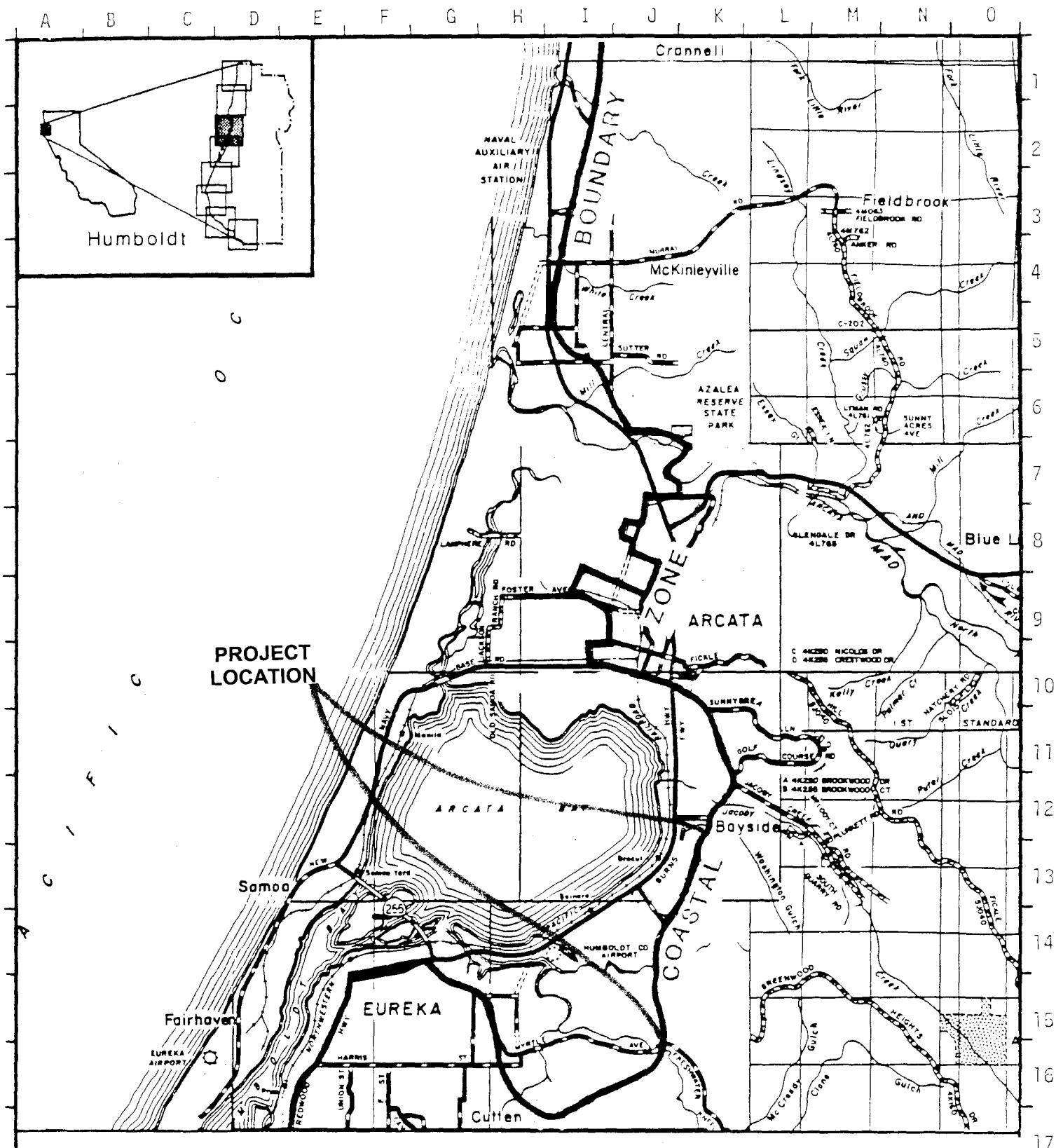
1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director of the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



California Coastal Commission

LOCATION MAP

1 0 mi

County of Humboldt

EXHIBIT NO. 1

APPLICATION NO.

1-86-200-A4

HUMBOLDT CO. PUBLIC WORKS DEPT.

REGIONAL LOCATION MAP

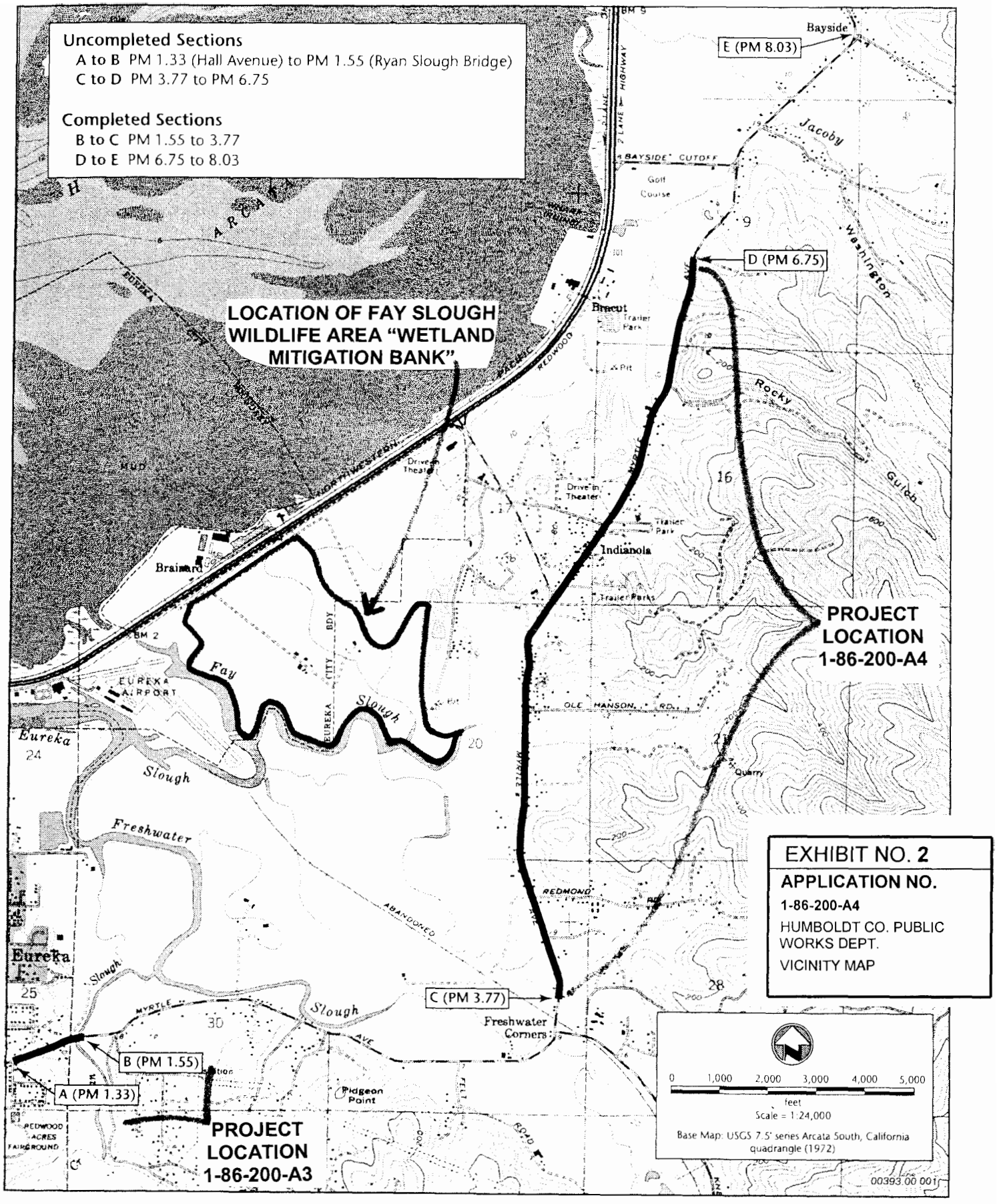


EXHIBIT NO. 2

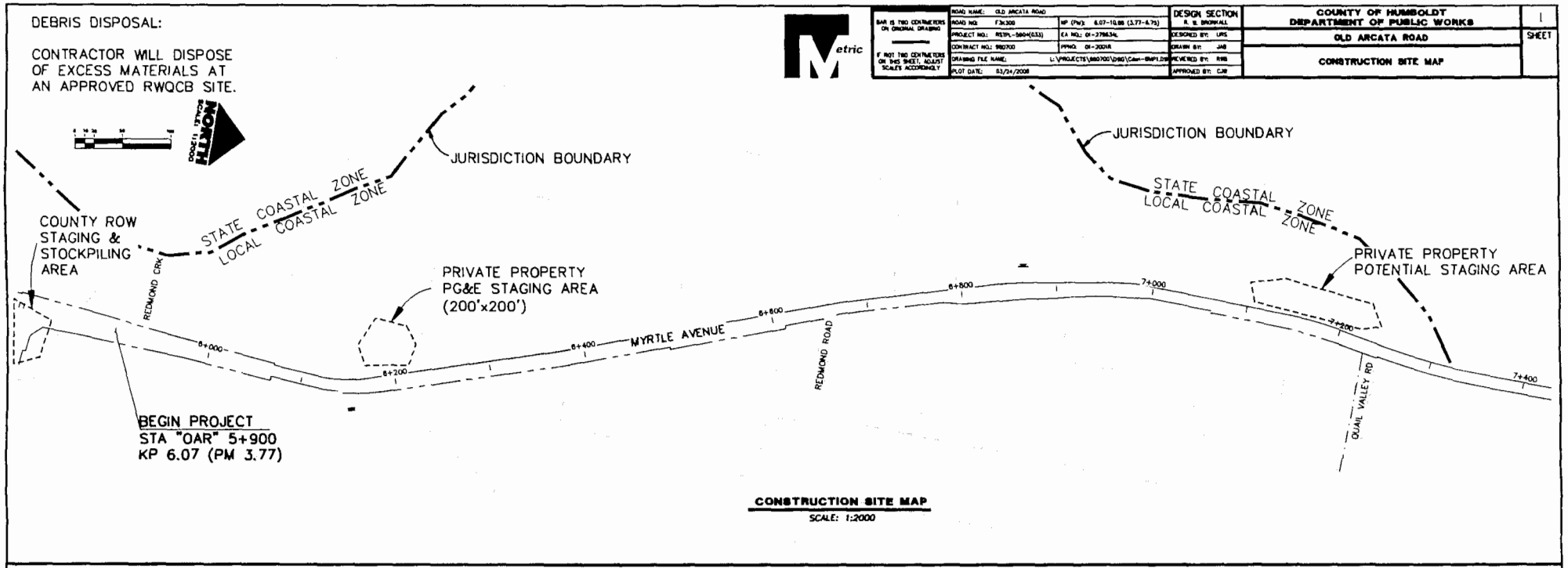
APPLICATION NO.

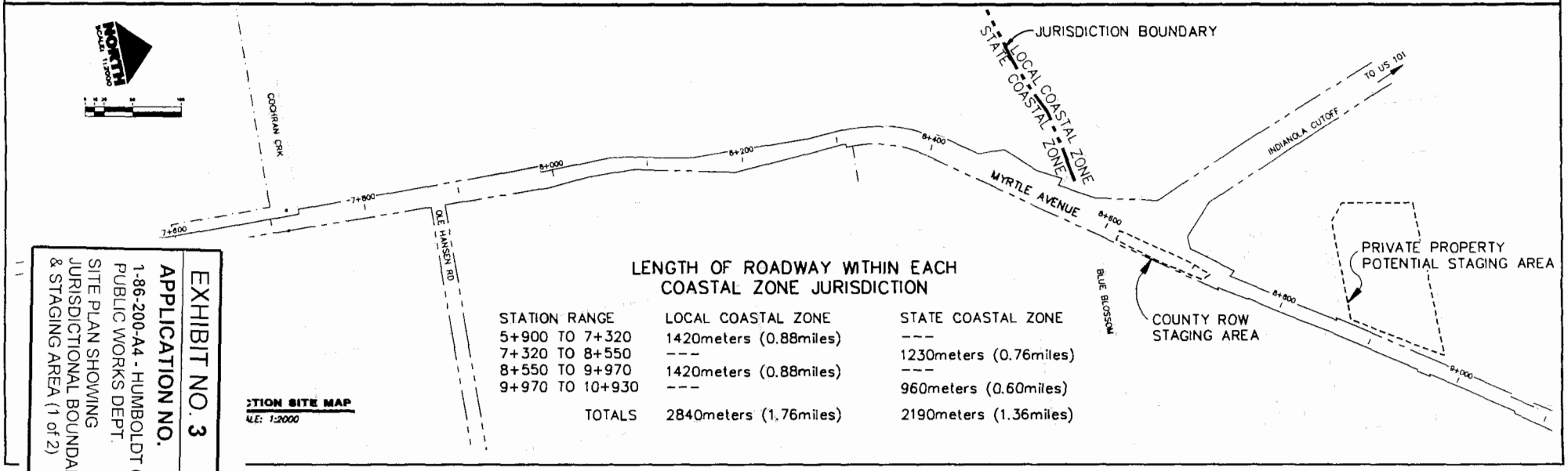
1-86-200-A4

HUMBOLDT CO. PUBLIC WORKS DEPT.

VICINITY MAP

Site Map – Myrtle Avenue / Old Arcata Road Improvements Project
Temporary & Potential Staging Areas And Coastal Zone Jurisdiction Boundaries





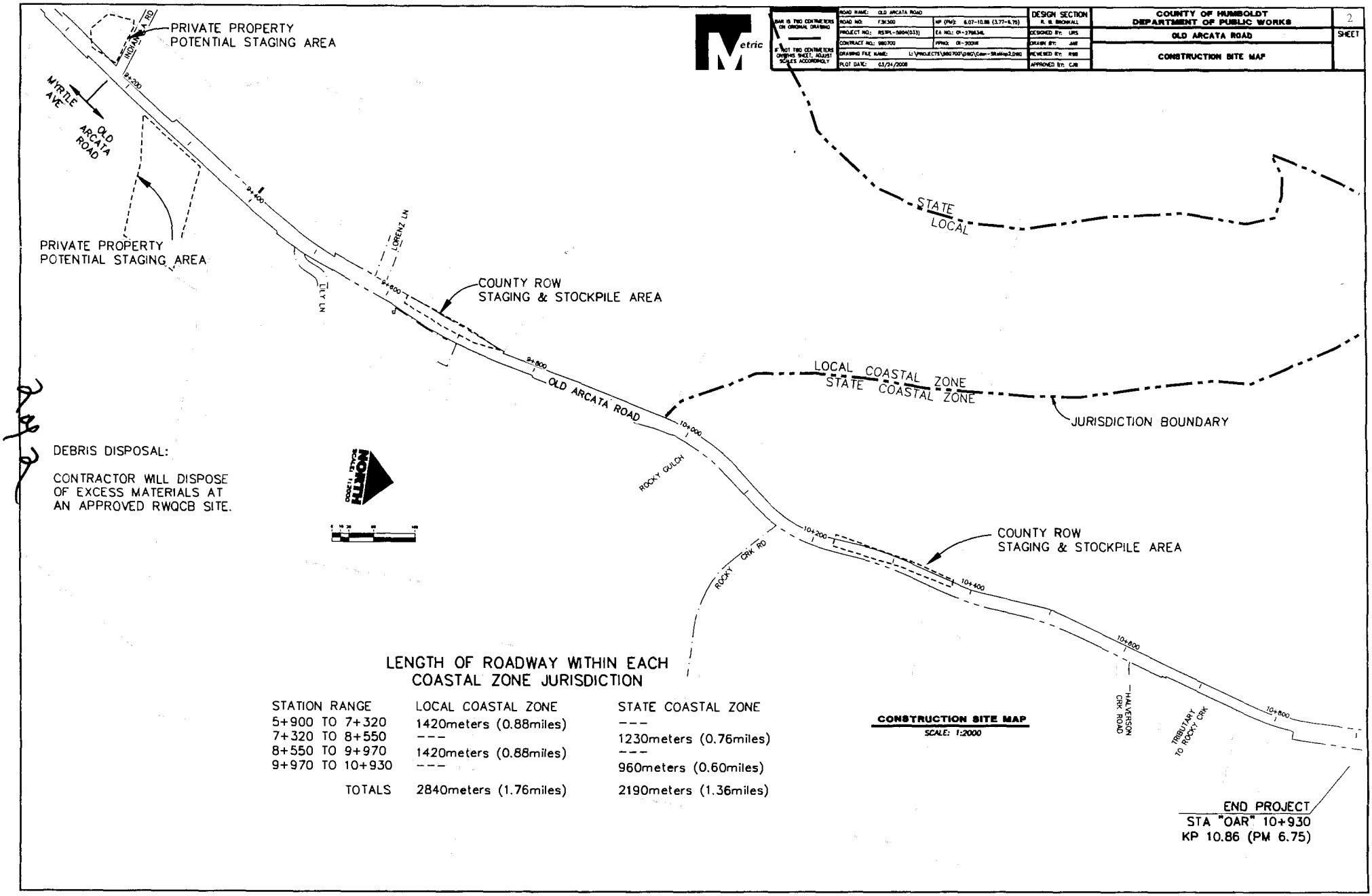
LENGTH OF ROADWAY WITHIN EACH COASTAL ZONE JURISDICTION

STATION RANGE	LOCAL COASTAL ZONE	STATE COASTAL ZONE
5+900 TO 7+320	1420meters (0.88miles)	---
7+320 TO 8+550	---	1230meters (0.76miles)
8+550 TO 9+970	1420meters (0.88miles)	---
9+970 TO 10+930	---	960meters (0.60miles)
TOTALS	2840meters (1.76miles)	2190meters (1.36miles)

CTION SITE MAP
ALE: 1:2000

EXHIBIT NO. 3
APPLICATION NO.
1-86-200-A4 - HUMBOLDT CO. PUBLIC WORKS DEPT.
SITE PLAN SHOWING JURISDICTIONAL BOUNDARIES & STAGING AREA (1 of 2)

Site Map – Myrtle Avenue / Old Arcata Road Improvements Project
Temporary & Potential Staging Areas And Coastal Zone Jurisdiction Boundaries



LENGTH OF ROADWAY WITHIN EACH COASTAL ZONE JURISDICTION

STATION RANGE	LOCAL COASTAL ZONE	STATE COASTAL ZONE
5+900 TO 7+320	1420meters (0.88miles)	---
7+320 TO 8+550	---	1230meters (0.76miles)
8+550 TO 9+970	1420meters (0.88miles)	---
9+970 TO 10+930	---	960meters (0.60miles)
TOTALS	2840meters (1.76miles)	2190meters (1.36miles)

Detailed Project Description

The proposed project is designed to provide continuous 12-feet-wide travel lanes and seven-feet-wide shoulders (six feet paved, one foot unpaved) along a three-mile-long stretch of County road. The project includes:

- A new roundabout intersection at Indianola.
- Replacement of two undersized waterway crossings with culverts designed for improved fish passage (Cochran Creek and an unnamed tributary to Rocky Gulch).
- Improvements to ten additional road-crossing culverts.
- Re-location of power poles and utility boxes.
- Re-location and/or filling of road-side ditches to accommodate the roadway widening.

The project can be sub-divided into six sections based on drainage areas. The southern end of the work area is Station 5+900, located approximately 325 feet north of Freshwater-Kneeland Road. The northern end of the work area is Station 10+930, located approximately 2,400 feet south of Bayside Cutoff. Station intervals are in metric units.

Section 1

Location: This 1,115-foot-long section is located between Freshwater-Kneeland Road and Adams Lane (Station 5+900 to 6+240 on the project plans).

Current drainage conditions: Stormwater on the west side of the road runs off the roadway via dispersed overland flow and percolates into the soil. Stormwater on the east side is collected in a road-side ditch that drains southward to a small stream (Redmond Creek) located at Station 5+905. This stream flows westward under Myrtle Avenue through a dual-elliptical RCP culvert system (each culvert is six-feet wide by three-feet high). The stream drains into Fay Slough.

Proposed work: The roadway will be widened in both directions, with minor widening occurring from Station 5+900 through 6+040 due to pre-existing conditions. The road-side ditch on the east side of the road from Station 6+060 to 6+140 will be re-located eastward. The new roadway from Station 6+040 through 6+220 will slope westward, thus draining stormwater runoff away from the easterly road-side ditch and onto the westerly road shoulder where it will percolate into the soil (agricultural land). As a result, post-construction runoff flows along the easterly ditch and subsequent stream (Redmond Creek) will be less than the current conditions. No work is proposed for the culvert at Station 5+905.

Environmental aspects: Portions of the road-side ditch on the east side of the road display wetland characteristics. Approximately 0.06 acres of wetlands will be temporally impacted and 0.04 acres will be permanently impacted. The road-side ditch will be re-established to the east and will consist of a wider channel than what currently exists. BMPs have been designed for work around the stream at Station 5+905 (Attachment 6).

Section 2

Location: This 2,725-foot-long section is located between Adams Lane and Quail Valley Road (Station 6+240 to Station 7+072 on the project plans).

Current drainage conditions: Stormwater on the west side of the road runs off the roadway via dispersed overland flow and percolates into the soil. Stormwater on the east side is conveyed through road-side ditches to a 20-inch-diameter culvert at Station 6+453. This culvert conveys water westward under Myrtle Avenue and discharges to a swale which is an unnamed tributary to Fay Slough.

Proposed work: The roadway will generally be widened in both directions, and shifted westward near the northern end. The road-side ditch on the east side of the road from approximately Station 6+320 to 6+780 will be re-located eastward. From Station 6+795 through 7+020, the road-side ditch will be slightly widened and reconstructed within the existing ditch area. The culvert at Station 6+453 will be extended to accommodate the new roadway, and the junction box at the outlet will be replaced and brought up to current standards.

Environmental aspects: A majority of the road-side ditches are located on the easterly side throughout this entire section. The westerly side of the roadway contains an outward-sloping shoulder with undefined ditches. Areas with wetland characteristics are mostly displayed within the easterly road-side ditches, while the shoulders on the west show less wetland characteristics. Approximately 0.51 acres of wetlands will be temporally impacted and 0.24 acres will be permanently impacted.

Section 3

Location: This 3,275-foot-long section extends from near Quail Valley Road to near Ole Hanson Road (Station 7+072 to Station 8+070 on the project plans).

Current drainage conditions: Stormwater on the west side of the road runs off the roadway via dispersed overland flow and percolates into the soil. Stormwater on the east side is conveyed through road-side ditches to culverts located at Stations 7+361, 7+621, 7+645 and 7+715. At Station 7+361, a two-foot-diameter culvert runs under Myrtle Avenue and drains into an unnamed tributary to Cochran Creek. At Station 7+621, a two-foot-diameter culvert runs under the roadway and mostly acts as an overflow culvert for Cochran Creek. At Station 7+645, two three-foot-diameter culverts situated in parallel convey Cochran Creek under Myrtle Avenue. After passing under the road, the creek immediately takes a 90-degree turn northward for approximately 220 feet, and then takes a 90-degree turn westward. Cochran Creek is a tributary to Fay Slough. At Station 7+715, a two-foot-diameter culvert runs under Myrtle Avenue and drains into Cochran Creek on the west side of the road.

Proposed work: The road will be widened, predominantly on the west side. The curve near Quail Valley Road will be straightened by shifting the roadway westward. Minor changes to the ditch on the east side will occur from Station 7+072 through Station 7+220 (mostly reconstruction within the existing ditch area). A new box culvert will be installed to convey Cochran Creek under Myrtle Avenue. The new culvert is designed to meet fish-passage

criteria and will consist of a nine-foot wide by six-foot high by 45-foot long box culvert embedded approximately one-to-two feet with river-run aggregate. A portion of Cochran Creek located immediately downstream from the road will be re-located and shifted westward. Detailed design information is located on Sheet L-33 of the Project Plans (Attachment 7). Both drainage culverts located at Station 7+621 and 7+715 will be extended to accommodate the new road width.

Environmental aspects: Road-side wetlands will be filled on the west side of the road due to the road shifting westward. Wetland areas on the east side from Station 7+360 through Station 7+820 will be avoided. The westerly side of the roadway at 7+645 through 7+715 and the immediate area surrounding the Cochran Creek crossing (Station 7+645) have also been identified as environmentally sensitive areas. Site-specific BMPs for these areas are shown in Attachment 6. Approximately 0.19 acres of wetlands will be temporally impacted while 0.51 acres will be permanently impacted.

Section 4

Location: This 5,025-foot-long section is located between Ole Hanson Road and Lorenz Lane (Station 8+070 to Station 9+602 on the project plans). The southern portion of this section includes a residential area known as Cox Corner. The middle portion of this section includes the Indianola Interchange. The northern portion of this section includes residential and commercial development.

Current drainage conditions: Most of the runoff within this section on both sides of the road is conveyed to a small creek which is an unnamed intermittent tributary of Fay Slough (Station 8+325). This section contains a network of road-side ditches and stormwater pipes draining southward through the Indianola Interchange toward the Fay Slough tributary. The existing 48-inch-diameter culvert at Station 8+325 is undersized.

Proposed work: In the southern portion of this section, the sharp curve will be straightened by shifting the roadway eastward. Retaining walls will be built at several locations. At Station 8+325, the existing culvert will be supplemented with a new four-foot-diameter culvert placed in parallel. Where feasible, open road-side ditches will remain, but several areas must be filled with pipe in order to meet the roadway design objectives. In the northern and middle portion of this section, a series of pipes ranging from 1.5-foot-diameter to 3.0-foot-diameter will be installed. The existing easterly ditch in the southern portion (Station 8+325 through 8+490) will be relocated to the east and widened. Runoff will continue to be conveyed southward to the Fay Slough tributary.

- Update 3/2008: Attempts are currently underway to place a 8-ft wide by 4-ft high pre-fabricated concrete box culvert at Station 8+325. There is some concern that underground gas lines may prevent a box culvert from being placed here, but it is currently being analyzed. An oversized box culvert will help alleviate flooding that occurs in the area and act as an ecological connection between the wetland area to the east and the tributary to the west. If the box culvert is feasible and can be installed without constraints, then this will be the preferred method for the culvert replacement.

Environmental aspects: Portions of the road-side ditches display wetland characteristics. The existing easterly ditch located from Station 8+325 through 8+490 contains higher wetland characteristics (numerous willows and alders) than other ditches in this section. The ditch through this area currently averages between two to four feet wide. One of the components of the proposed work in this area will be to widen the ditch to an average of five to eight feet. The impacted area will be replanted to help establish the pre-existing wetland characteristics. The replanting effort will be a separate project to the road widening project. Approximately 0.39 acres of wetlands will be temporally impacted and 0.74 acres will be permanently impacted.

Hydraulic analysis for this section showed that increased runoff rates during a 100-year storm event will increase 0.8 cfs after construction. The current drainage culvert at Station 8+325 is undersized, thus the need for the proposed addition of a parallel four-foot culvert. It is anticipated that increasing the width of the existing drainage ditch as described above will help decelerate and convey stormwater runoff. Furthermore, widening the ditch will help promote wetland formation in the area.

The easterly side of the roadway at Station 8+320 through 8+480, the westerly side of the roadway at 8+280 through 8+380 and the immediate area surrounding the unnamed intermittent tributary crossing (Station 8+325) have been identified as environmentally sensitive areas. Site-specific BMPs for these areas are shown in Attachment 6.

Section 5

Location: This 2,950-foot-long section is located between Lorenz Lane and Halvorson Creek Road (Station 9+602 to Station 10+502 on the design plans).

Current drainage conditions: In the southern portion of this section, stormwater on both sides of the road runs off the roadway via dispersed overland flow and percolates into the soil. A small unnamed creek comes in laterally on the east side of the road in the vicinity of Vitus Lane, and flows northward adjacent to the road in an open ditch from Station 9+960 to Station 10+010. Station 10+010 is a crossing over Rocky Gulch, where a new fish-passage arch culvert was installed in 2007. A road-side ditch, which acts as an overflow channel for Rocky Gulch, is present on the east side of the road between Station 10+010 and Station 10+155. An undersized culvert at Station 10+155 conveys stormwater runoff and periodic flood waters from Rocky Gulch under Old Arcata Road and back into the downstream end of Rocky Gulch. Also at this location is a 24-inch-diameter drainage pipe that crosses under Rocky Creek Road and drains into the overflow culvert inlet area. This drainage pipe drains the easterly side of the road south of the drainage culvert located at Station 10+408.

Proposed work: The roadway will be widened on both sides. The road-side ditches on the east side of the road from Station 9+960 through Station 10+155 will be re-located and widened eastward. Since the culvert at Rocky Gulch was replaced in 2007, flood events at the culvert location should diminish. However, hydraulic analysis showed that creek flows during a 100-year event will overflow the channel several hundred feet upstream of the crossing and through the adjacent private property. For this reason, the overflow ditch will be widened and the culvert at Station 10+155 will be replaced with a larger four-foot-diameter culvert.

The new roadway from Station 10+100 through 10+230 will slope westward, thus draining stormwater runoff away from the easterly road-side ditch and onto the westerly road shoulder where it will percolate into the riparian zone adjacent to Rocky Gulch.

The undersized 12-inch-diameter drainage pipe located at Station 10+408 will be replaced with a larger 18-inch-diameter pipe.

Environmental aspects: Portions of the road-side ditches display wetland characteristics. The overflow ditch along the easterly side from Station 10+010 to Station 10+155 appears to contain higher wetland characteristics than other ditches in the area. The new reconstructed overflow ditch will be wider than the existing ditch. It is anticipated that increasing the width of the existing ditch, along with installing a larger culvert, will help convey potential floodwaters more efficiently and in turn prevent flooding of the roadway. Furthermore, widening the ditch will help promote wetland formation in the area. The westerly side of the roadway at Station 10+150 through 10+250, 10+460 through 10+560 and the immediate area surrounding the Rocky Gulch creek crossing (Station 10+010) have been identified as environmentally sensitive areas. Site-specific BMPs for these areas are shown in Attachment 6. Approximately 0.24 acres of wetlands will be temporally impacted and 0.33 acres will be permanently impacted.

Section 6

Location: This 1,400-foot-long section extends from near Halvorsen Creek Road toward Stephens Lane (Station 10+502 to Station 10+930 on the design plans).

Current drainage conditions: The area north of Halvorsen Creek Road drains toward an unnamed tributary of Rocky Gulch located at Station 10+713. The tributary passes under Old Arcata Road through a 20-inch-diameter culvert. The small area south of Halvorsen Creek Road drains toward a small 12-inch-diameter drainage culvert which crosses under Old Arcata Road at Station 10+646.

Proposed work: The roadway will be widened on both sides, predominantly on the west side. An inboard ditch will be established along the eastern shoulder to help convey stormwater runoff away from the road. The new roadway from Station 10+500 through 10+580 will slope eastward, draining stormwater off the road and into the easterly road-side ditch where it will be conveyed to the drainage pipe at Station 10+646.

The new culvert at Station 10+713 is designed to meet fish-passage criteria and will consist of a six-foot-diameter, 60-foot-long reinforced concrete pipe embedded approximately one-to-two feet with river-run aggregate. The embankments at the new inlet and outlet of the culvert will be armored with ½-ton rock slope protection to help prevent erosion and scour. Detailed design information is located on Sheet L-34. The small 12-inch-diameter drainage pipe located at Station 10+646 will be replaced with a larger 18-inch-diameter pipe.

Environmental aspects: Portions of the road-side ditches and shoulder areas display wetland characteristics. The most sensitive area in this section consists of a heavily wooded riparian

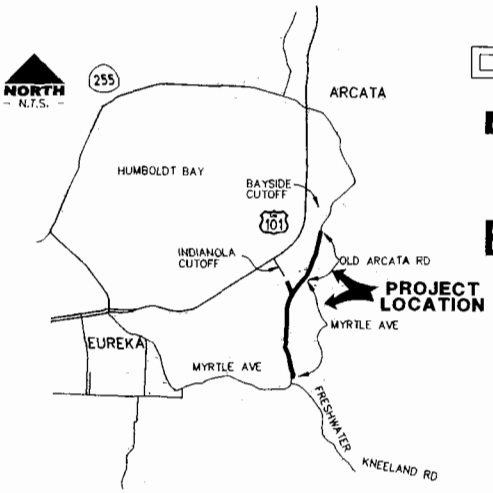
zone (alders and willows) located along the western embankment from Station 10+600 through 10+740. Most of the wetland impacts in this section occur within this wooded area. The impacted area will be replanted post construction activities to help establish the pre-existing riparian conditions. The replanting effort will be a separate project to the road widening project. As discussed for Section 5, a sensitive area occurs along the western side between Station 10+460 and 10+560 where Rocky Gulch runs approximately 30-40 feet from the roadway. Site-specific BMPs for the above areas are shown in Attachment 6. Approximately 0.33 acres will be permanently impacted.

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROWNALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	I-1
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: 33K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 1 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634	DRAWN BY: JAR		
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB	COVER SHEET, SHEET INDEX AND DETAILS	
	DRAWING FILE NAME:	L:\PROJECTS\980700\DWG\I-1.DWG	APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				

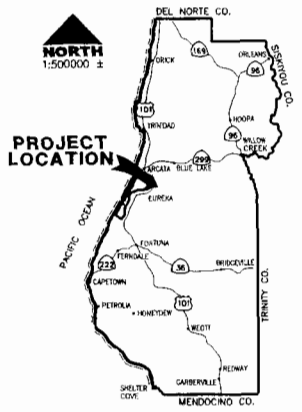
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION OF

OLD ARCATA ROAD
BETWEEN KP 6.07 & 10.86 (PM 3.77& 6.75)
PROJECT NO. RSTPL-5904(033)
CONTRACT NO. 980700



VICINITY MAP
NOT TO SCALE



LOCATION MAP
SCALE: 1:500000 ±

INDEX OF SHEETS

NOTES

THE CONTRACTOR SHALL HAVE A CLASS A LICENSE FOR THIS PROJECT.

DESIGN DESIGNATION

ADT (PRESENT)=2000-3600
V=45(POSTED)

APPLICABLE STANDARD PLANS

REFERENCE TO CALTRANS STANDARD PLANS DATED JULY 2004.

A10A	ABBREVIATIONS
A10B	SYMBOLS
A20A	PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS
A20B	PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS
A24E	PAVEMENT MARKERS WORDS AND CROSSWALKS
A62B,D,E	EXCAVATION AND BACKFILL
A85	CHAIN LINK FENCE
A86	BARBED WIRE AND WIRE MESH FENCES
A87	CURBS, DIKES AND DRIVEWAYS
B3-1	RETAINING WALL TYPE 1 H=1200 THROUGH 9100 mm
D73	DRAINAGE INLETS
D77B	BICYCLE PROOF GRATE DETAILS
D80	C.I.P. REINFORCED CONCRETE SINGLE BOX CULVERT
D82	MISC. DETAILS
D84	BOX CULVERT WINGWALLS
D94A	METAL AND PLASTIC FLARED END SECTIONS
D94B	CONCRETE FLARED END SECTIONS
D100A	GABION BASKET DETAILS NO. 1
D100B	GABION BASKET DETAILS NO. 2
T13	TRAFFIC CONTROL SYSTEM...
RS1,2	ROADSIDE SIGNS TYPICAL INSTALLATION
ES-6G	LIGHTING STANDARDS TYPE 32

RECOMMENDED

ROBERT L. BURNETT
RCE 36210, EXP. 6/30/2008

3-10-08
DATE

REGISTERED PROFESSIONAL ENGINEER
ROBERT L. BURNETT
NO. 36210
EXP. 06/30/08
CIVIL
STATE OF CALIFORNIA

APPROVED

CHRISTOPHER J. WHITWORTH
RCE 51931, EXP. 6/30/2008

3/10/08
DATE

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER J. WHITWORTH
NO. 51931
EXP. 06/30/08
CIVIL
STATE OF CALIFORNIA

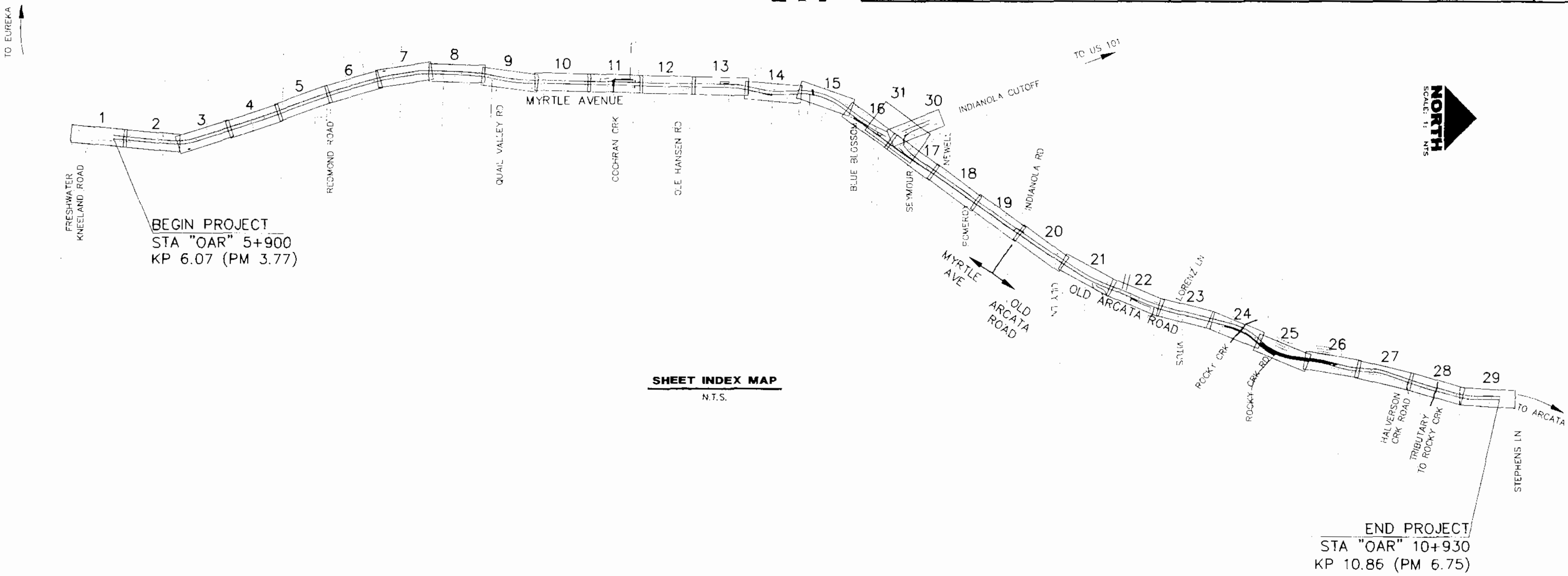
EXHIBIT NO. 5
APPLICATION NO.
1-86-200-A4
HUMBOLDT CO. PUBLIC WORKS DEPT.
PROJECT PLANS (1 of 80)

ORIGINAL LOW BID PRICE	CONSTRUCTED BY	RESIDENT ENGINEER
	PROJECT COMPLETED / /	CONSTRUCTION COST $

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)		
	PROJECT NO.: RSTPL-5904(033)	FA NO.: 01-279534L	DESIGNED BY: URS	OLD ARCATA ROAD
	CONTRACT NO.: 980700	PPNO: 01-2001R	DRAWN BY: JAB	
	DRAWING FILE NAME: t:\PROJECTS\980700\DWG\I 2.DWG		REVIEWED BY: RWB	SHEET INDEX, LEGEND AND ABBREVIATIONS
	PLOT DATE: 03/10/2008		APPROVED BY: CJW	

I-2

SHEET 2 OF 80



SHEET INDEX MAP

N.T.S.

LEGEND - EXISTING CONDITIONS - PLAN & PROFILE

- FENCE
- ROAD ROW
- PROPERTY LINE (PER AP MAPS)
- EASEMENT-ROAD, WATER, DRAINAGE
- SECTION LINE
- EDGE OF PAVEMENT
- EDGE OF TRAVEL WAY
- FLOW LINE
- WATER
- GAS
- SEWER
- ELECTRIC
- TELEPHONE
- GASOLINE
- OIL
- TELEVISION
- OVH ELECTRIC
- OVH TELEPHONE
- OVH TELEVISION

- FIRE HYDRANT
- IN STREET SIGN SOCKET
- MB MAIL BOX
- -O- UTILITY POLE
- GUY WIRE
- TREE OR SHRUB
- ROADSIDE SIGN
- S SEWER MANHOLE
- WM WATER METER
- WV WATER VALVE
- GAS VALVE
- SURVEY CONTROL POINT
- MONUMENT
- POLE C/F UTILITY POLE LOCATED IN CUT/FILL MAY OR MAY NOT NEED TO BE RELOCATED

LEGEND - PROPOSED CONDITIONS - PLAN & PROFILE

- CENTERLINE
- DAYLIGHT LINE
- EDGE OF PAVEMENT
- ROW TO BE ACQUIRED
- WATER
- Gas
- SEWER
- ELECTRIC
- TELEPHONE
- GASOLINE
- OIL
- TELEVISION
- OVH ELECTRIC
- OVH TELEPHONE
- OVH TELEVISION

LEGEND - RIGHT OF WAY

- EXISTING RIGHT OF WAY LINE
- PROPERTY LINES
- EASEMENT (ROAD, DRAINAGE, WATER...)
- TEMPORARY CONSTRUCTION EASEMENT
- CENTERLINE OF OLD ARCATA ROAD
- EDGE OF PAVEMENT
- UTILITY POLE PROPOSED LOCATION
- CENTERLINE MONUMENT PER OAR LINE, A LINE, B LINE
- EXISTING, FOUND SURVEY MONUMENT
- SURVEY CONTROL POINT
- PROPOSED RIGHT OF WAY TO BE ACQUIRED
- (A) AREA TO BE ACQUIRED FOR RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- (B) & (C) POWER EASEMENT - PG&L

ITEM NO.	ITEM CODE		ITEM DESCRIPTION	UNIT	BID QUANTITY
1	74016		CONSTRUCTION SITE MANAGEMENT	LS	1
2	74019		PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	1
3	74023		TEMPORARY EROSION CONTROL (STRAW MULCH)	HECT	2
4	74029		TEMPORARY SILT FENCE	LM	4,500
5	74032		TEMPORARY CONCRETE WASHOUT FACILITY	EA	5
6	74033		TEMPORARY CONSTRUCTION ENTRANCE	EA	3
7	74035		TEMPORARY CHECK DAM	LM	55
8	74038		TEMPORARY DRAINAGE INLET PROTECTION	EA	22
9	120090		CONSTRUCTION AREA SIGNS	EA	12
10	120100		TRAFFIC CONTROL SYSTEM	LS	1
11	150305		OBLITERATE SURFACING	SM	1,260
12	150605		REMOVE FENCE	LM	1,500
13	150805		REMOVE CULVERT	LM	200
14	150820		REMOVE INLET	EA	2
15	151901		RELAY CULVERT	LM	88
16	152370		RELOCATE MAILBOX	EA	12
17	152390		RELOCATE ROADSIDE SIGN	EA	8
18	152423		ADJUST MONUMENT TO GRADE	EA	9
19	152430		ADJUST INLET (STA "A" 1+150)	EA	1
20	152435		ADJUST INLET COVER (STA 6+667 RT)	EA	1
21	153154		COLD PLANE ASPHALT CONCRETE PAVEMENT (60mm MAX)	SM	6,310
22	153156		COLD PLANE ASPHALT CONCRETE AND BASE (90mm MAX)	SM	16,940
23	160101		CLEARING AND GRUBBING	SM	22,730
24	190101		ROADWAY EXCAVATION	CM	13,250
25	192001		STRUCTURE EXCAVATION	CM	330
26	193001		STRUCTURE BACKFILL	CM	190
27	194001		DITCH EXCAVATION	CM	304
28	198020		IMPORTED RIVER GRAVEL	CM	40
29	198050		EMBANKMENT	CM	7,660
30	203016	S	EROSION CONTROL	HECT	1
31	203021		FIBER ROLL	LM	790
32	260301		CLASS 2 AGGREGATE BASE	CM	11,245
33	390189		ASPHALT CONCRETE (TYPE A, 19mm MAX. MED.)	TONNE	28,545
34	394040		ASPHALT CONCRETE DIKE (TYPE A)	LM	1,500
35	510100x		PRECAST CONCRETE BOX CULVERT (2.4m X 1.2m X 20.7m)	LM	21
36	510502		MINOR CONCRETE (MINOR STRUCTURE)	CM	25
37	510512		MINOR CONCRETE (BOX CULVERT)	CM	53
38	510516		MINOR CONCRETE (RETAINING WALL)	CM	52
39	520101	S	BAR REINFORCING STEEL	KG	15,400
40	560511		ROADSIDE SIGNS - ONE POST	EA	21
41	560012		ROADSIDE SIGNS - TWO POST	EA	3
42	569000	S	RADAR SPEED DETECTOR SIGN	EA	4
43	641134		450mm PLASTIC PIPE	LM	205
44	650069		450mm REINFORCED CONCRETE PIPE	LM	306
45	650072		525mm REINFORCED CONCRETE PIPE	LM	5
46	650075		600mm REINFORCED CONCRETE PIPE	LM	250
47	650079		900mm REINFORCED CONCRETE PIPE	LM	96
48	650084		1200mm REINFORCED CONCRETE PIPE	LM	47
49	650092		1800mm REINFORCED CONCRETE PIPE	LM	19
50	680931		150mm PERFORATED PLASTIC PIPE UNDERDRAIN	LM	233
51	682023		CLASS 1 PERMEABLE MATERIAL (UNDERDRAIN)	CM	156
52	705222		450mm CONCRETE FLARED END SECTION	EA	1
53	721008		ROCK SLOPE PROTECTION (LIGHT, METHOD B)	CM	15
54	722020		GABIONS	CM	130
55	731501		MINOR CONCRETE (CURB-ROLLED 50mm, SPLITTER ISLAND)	LM	198
56	731502		MINOR CONCRETE(MISC.-CENTRAL ISLD CURB & MTBLE CURB)	CM	13
57	731504		MINOR CONCRETE(CURB AND GUTTER - ROLLED, 150mm)	LM	139
58	731516		MINOR CONCRETE (DRIVEWAYS)	CM	16
59	731517		MINOR CONCRETE (GUTTER)	LM	50
60	731521		MINOR CONCRETE (SIDEWALK)	CM	56
61	731522		MINOR CONCRETE (COBBLE ISLAND PAVING - WALKS & ISLAN	CM	180
62	750030		INLET FRAME AND GRATE	EA	22
63	810116		SURVEY MONUMENT (TYPE D)	EA	55
64	832001	S	METAL BEAM GUARD RAILING	LM	26
65	839585	S	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	2
66	840501	S	THERMOPLASTIC TRAFFIC STRIPE	LM	20,120
67	840515	S	THERMOPLASTIC PAVEMENT MARKING	SM	100
68	840563	S	200mm THERMOPLASTIC TRAFFIC STRIPE	LM	1,250
69	862045	S	200 WATT H.P SODIUM LUMINAIRE W/ PHOTOELECTRIC CELL	EA	3
70	999990		MOBILIZATION	LS	1

ADDITIVE OPTION 1 (AO1)

AO1-1	152402	S	ADJUST WATER VALVE COVER TO GRADE	EA	12
AO1-2	152403	S	ADJUST WATER METER BOX TO GRADE	EA	3
AO1-3	152410	S	RELOCATE WATER METER	EA	1
AO1-4	152440	S	ADJUST MANHOLE TO GRADE (TEL-FIBER OPTIC- STA 7+199)	EA	1
AO1-5	152468	S	ADJUST UTILITY COVER TO GRADE (GAS VALVE)	EA	7
AO1-6	152471	S	ADJUST METER BOX (GAS)	EA	3
AO1-7	152474	S	ADJUST UTILITY VAULT (GAS - STA 7+882)	EA	1
AO1-8	152613	S	MODIFY UTILITY VAULT (GAS - STA 7+445)	EA	1
AO1-9	152702	S	REMODEL MANHOLE (WATER VAULT - STA 9+620)	EA	1

ADDITIVE OPTION 2 (AO2)

AO2-1	153156		COLD PLANE ASPHALT CONCRETE AND BASE (90 MAX)	SM	18,000
AO2-2	390189		ASPHALT CONCRETE (TYPE A, 19mm MAX. MED.)	TONNE	2,600
AO2-3	641134		450mm PLASTIC PIPE - FOR DRIVEWAYS	LM	124

Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634l	DRAWN BY: JAB
	CONTRACT NO.: 980700	PPNO.: 01-2001R	REVIEWED BY: RWB
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-13.DWG		APPROVED BY: CJW
	PLOT DATE: 03/10/2008		

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

OLD ARCATA ROAD

SUMMARY OF QUANTITIES

I-3

SHEET 3 OF 80

ROAD CROSSING CULVERT SUMMARY

STATION	TYPE OF PIPE <E>	EXISTING DIAMETER (MM)	PROPOSED DIAMETER (MM) / LENGTH (M)						NOTES
			450	600	900	1200	1800	MISC	
6+453	RCP	450	1.8						EXTEND & DI
7+362	RCP	600				16.0			REPLACE WITH 1200mm
7+621	RCP	600		3.7					EXTEND
7+644	RCP	2-900						3.6x1.8 BOX	REPACE WITH BOX CULV SEE SHT L-33
7+718	RCP	600		5.5					EXTEND
8+322	RCP	900						2.4x1.2 BOX	REPLACE WITH PRECAST BOX CULVERT
9+445	RCP	300	15.5						REPLACE
10+010	RCP	900, 500						ALUM. BOX	COMPLETED 2007
OS 1+065 (10+155)	RCP	600				25.0			REPLACE WITH 1200mm
10+405	RCP	300	18.4						REPLACE
10+646	RCP	300	16.1						REPLACE & FLARED END
10+713	RCP	500					18.28		SEE SHEET L-34
		TOTALS	51.8	16.6	0.0	41.0	18.28		

INDIANOLA STORM DRAIN SUMMARY

FACILITY	TYPE	STATION	OUTLET F/L	INLET F/L	GRATE F/L	WINDOW / PIPE - F/L	PIPE LENGTH - M				MINOR CONCRETE CM	PERMEABLE MATERIAL CM	150mm PERFORATED PLASTIC PIPE	REMARKS
							450	600	760	900				
S.D. PIPE	OUTLET	A 1+219 RT.	2.800											C/L LOCATED 9.18m RT.
S.D. PIPE	RCP									21.0				
D.I. # 1	G2	A 1+240 RT.	3.210	3.230	4.574	4.175					1.951			C/L LOCATED 8.2m RT.
S.D. PIPE	RCP									30.6		20.0	30	
D.I. # 2	G2	A 1+271.4 RT.	3.860	3.960	5.254	5.000					1.983			
S.D. PIPE	RCP								50.0			30.7	46	
D.I. # 3	G2	8+818.5 RT.	5.319	5.321	6.420	6.180					1.478			CONNECT <E> UNDERDRAIN
S.D. PIPE	RCP								48.0			13.3	20	
D.I. # 4	G2	8+867.5 RT.	6.200	6.220	7.330	7.090					1.602			CONNECT <E> UNDERDRAIN
S.D. PIPE	RCP								49.5			10.0	15	
D.I. # 5	G2	8+918.0 RT.	7.140	7.160	8.230	7.840					1.560			CONNECT <E> PROPERTY DRAIN
S.D. PIPE	RCP								32.0			3.3	5	
D.I. # 6	G2	8+951.0 RT.	7.950	8.050	9.040	8.800					1.560			CONNECT <E> PROPERTY DRAIN
S.D. PIPE	RCP								23.1					
D.I. # 7	G2	8+975.0 RT.	8.760	8.780	9.650	9.410					1.366			
S.D. PIPE	RCP							62.1						
D.I. # 8	G2	9+038.0 RT.	10.110	10.130	11.075	10.830					1.374			
S.D. PIPE	RCP							59.1						
D.I. # 9	G2	9+098.0 RT.	11.260	11.280	12.175	11.930					1.325			
S.D. PIPE	RCP							60.0						
D.I. # 10	G2	9+159.0 RT.	12.120	12.300	13.265	12.880					1.553			
S.D. PIPE	RCP						37.0							
D.I. # 12	G1	9+197.0 RT.	12.890	12.910	13.660	13.420					0.619			
S.D. PIPE	RCP						18.1							
D.I. # 13	G1	9+216.0 RT.	13.090	13.110	13.830	13.590					0.602			
S.D. PIPE	RCP						41.1							
D.I. # 14	G1	9+258.0 RT.	13.590	13.610	14.320	14.080					0.597			
S.D. PIPE	RCP						20.3							CONNECTS TO <E> PIPE
D.I. # 15	G1	9+300.0 RT.	14.250	14.270	15.040	14.650					0.630			
S.D. PIPE	RCP						16.1							CONNECTS TO <E> PIPE
D.I. # 16	G1	9+349.0 RT.	14.990	15.010	15.740	15.500					0.608			
S.D. PIPE	RCP						16.5							
S.D. PIPE	INLET	9+363.0 RT.		15.350										LOCATED 6.3m RT OF "OAR" LINE
S.D. PIPE	OUTLET	A 1+269.4 LT.	3.684				21.8							CONNECTS TO <E> PIPE
D.I. # 17	G1	A 1+292.0 LT.	4.180	4.200	5.750	5.510					1.059			
S.D. PIPE							44.7					26.7	40	
D.I. # 18	G1	8+834.0 LT.	5.180	5.200	6.750	6.510					1.059			
S.D. PIPE	RCP						11.6					2.7	4	CONNECTS TO <E> PIPE
D.I. # 19	G1	8+900.0 LT.	6.720	6.722	7.900	7.660					0.844			
S.D. PIPE	RCP						56.9					20.0	30	
D.I. # 20	G1	8+957.5 LT.	8.470	8.490	9.240	9.000					0.619			
S.D. PIPE	RCP						12.6					8.0	12	CONNECTS TO <E> PIPE
<E> RCP	CONNECT	8+971.0 LT.		8.810										
D.I. # 10	G2	9+159.0 RT.		12.150										
S.D. PIPE	RCP						12.0					7.3	11	
D.I. # 11	G1	9+162.0 LT.	12.320	12.350	13.310	13.070					0.740			
S.D. PIPE	RCP						29.8					13.3	20	
S.D. PIPE	INLET	9+192.0 LT.		12.640										LOCATED 9.4m LT OF "OAR" LINE
						TOTALS	337.5	181.2	202.6	51.6	23.129	155.3	233	

ALL DISTANCES MEASURED FROM DRAWING LTOP.DWG '1-19-03 JAB

DRIVEWAY SUMMARY

	DRIVEWAY STA.	EXISTING SURFACE	LENGTH (M)	WIDTH (M)	A.B. (CM) [1]	A.C. TONNE [2]	CONCRETE (CM) [3]	ROADWAY EXCV (CM)	ROADWAY EMBK (CM)	CULVERT 450	CULVERT VAR	CULVERT SALV/REMOV	NOTES
	5+925 L	ASPHALT	3.0	20.0	--	7.2	--	--	--	15*			REPLACE 300 RCP L=15±
	5+957 L	GRAVEL	3.0	3.0	1.4	1.1	--	--	--				
	6+003 R	ASPHALT	3.0	3.5	--	1.3	--	--	--	5.5*			REPLACE 300 RCP L=5.5
	6+034 R	ASPHALT	3.0	4.0	--	1.4	--	--	--	8.6*			REPLACE 300 RCP L=8.6
	6+037 L	GRAVEL	3.0	3.0	1.4	1.1	--	--	--				
	6+064 L	GRAVEL	4.0	2.8	1.7	1.3	--	0.5	--	6.3*			REPLACE 300 RCP L=6.3
	6+091 L	GRAVEL	3.0	3.0	1.4	1.1	--	--	--				
	6+130 R	GRAVEL	3.0	3.1	1.4	--	--	--	2.0	5.4		5.4	REPLACE 200 RCP L=5.4
	6+131 L	GRAVEL	4.0	5.0	3.0	2.4	--	0.7	--	9.2*			REPLACE 180 CMP L=9.2
	6+238 R	ASPHALT	3.0	4.0	--	1.4	--	--	--				NONE
	6+376 L	GRAVEL	4.0	8.4	5.0	4.0	--	2.8	--				NONE
	6+387 R	GRAVEL	4.0	8.4	5.0	4.0	--	1.6	--	11.7		11.7	REPLACE 400 CMP L=11.7
	6+506 L	ASPHALT	3.0	9.1	--	3.3	--	--	--	18.0		18.0	NO FLOW 400 CMP L=18.3
	6+565 R	ASPHALT	3.0	8.7	--	3.1	--	--	--	12.2		12.2	RELACE 400 CMP L=12.2
REDMOND RD	6+660 R	ASPHALT	6.0	7.3	--	8.5	--	--	--		20.0*		RCPLACE 600 CMP L=20.0
	6+679 L	GRAVEL	4.0	8.2	4.9	3.9	--	1.8	--				NONE
	6+728 R	GRAVEL	4.0	5.2	3.1	2.5	--	1.3	--	10.7		10.7	REPLACE 300 RCP L=10.7
	6+754 L	GRAVEL	4.0	3.3	2.0	1.6	--	1.3	--				NONE
	6+794 R	GRAVEL	4.0	4.0	2.4	1.9	--	1.7	--	7.3			REPLACE 300 RCP L=7.3
	6+797 L	GRAVEL	4.0	4.5	2.7	2.2	--	0.6	--				NONE
	6+893 R	GRAVEL	3.0	5.0	2.2	1.8	--	0.5	--				NONE
	6+903 L	GRAVEL	12.0±	3.4	6.1	4.9	--	--	5.0				NONE
	6+924 R	GRAVEL	4.0	5.2	3.1	2.5	--	2.2	--	9.1			REPLACE 200 RCP L=48+
	6+965 R	GRAVEL	4.0	4.3	2.6	2.1	--	2.3	--	9.1			WITH (2) 450mm x 9.1m
	7+148 R	ASPHALT	12.0±	4.0	7.2	5.8	--	20.0	--	6.2			REPLACE 300 CMP L=6.2
	7+185 L	GRAVEL	4.0	14.3	8.6	6.9	--	14.6	--				RELOCATE DWY TO 7+140
QUAIL VALLEY RD	7+242 R	ASPHALT	3.0	6.5	--	2.3	--	--	--	21.8*			??400 CMP L=21.8 OK??
	7+276 R	GRAVEL	7.0	2.5	2.6	2.1	--	--	--	6.2*			REPLACE 300 CMP L=6.2
	7+334 L	GRAVEL	5.0	5.0	3.8	3.0	--	1.2	--				--
	7+335 R	GRAVEL	3.0	2.6	1.2	0.9	--	0.7	--	8.8*			REPLACE 300 CMP L=8.8
	7+398 R	GRAVEL	3.0	6.3	2.8	2.3	--	2.4	--				600 CMP L=14.1 OK
	7+444 R	GRAVEL	3.0	6.3	2.8	2.3	--	2.5	--				500 CMP L=12.7 OK
	7+484 R	GRAVEL	3.0	4.2	1.9	1.5	--	1.8	--				600 CMP L=18.0 OK
	7+491 R	GRAVEL	3.0	12.6	5.7	4.5	--	5.5	--				
	7+578 R	ASPHALT	5.0	9.1	--	3.3	--	6.2	--				600 CMP/RCP L=14.4 OK
AT COCHRAN CRK	7+649 R	GRAVEL	5.0	5.0	3.8	3.0	--	4.2	--				500 RCP L=9.2
	7+796 R	CONCRETE	1.0	5.0	--	--	1.0	1.7	--				400 RCP L=9.5 OK
OLE HANSEN RD	7+875 R	ASPHALT	18.3	7.3	26.7	19.3	--	5.7	18.3		3.7		EXTEND 500 RCP L=3.7
	7+918 L	GRAVEL	12.0	4.2	7.6	6.0	--	--	37.6				NONE
	7+928 R	ASPHALT	5.0	7.6	5.7	4.6	--	--	3.9	27.0			REPLACE 500 CMP L=27.0
	7+981 R	GRAVEL	5.0	5.9	4.4	3.5	--	0.8	1.5				NONE
	8+015 L	GRAVEL	8.5	17.2	14.0	23.1	--	--	28.2				CONSTRUCT AC DWY
	8+024 R	ASPHALT	3.0	3.9	--	1.4	--	--	--				NONE
	8+036 L	GRAVEL	--	--	--	--	--	--	--				ABANDON DWY FOR GUARDRAIL
	8+069 R	GRAVEL	12.0	5.0	9.0	7.2	--	33.2	--				NONE
	8+075 L	GRAVEL	5.0	5.0	3.8	3.0	--	1.1	--				NONE
	8+125 L	ASPHALT	3.0	9.2	--	3.3	--	--	--				NONE
	8+129 R	GRAVEL	8.0	4.5	4.7	3.8	--	20.7	--				NONE
	8+145 R	GRAVEL	9.0	4.5	6.1	4.9	--	21.9	--				NONE
	8+186 R	GRAVEL	7.0	3.7	3.4	1.2	--	10.2	--	5.0			AC 3.1m DWY+AREA AB 7.0m
	8+187 L	ASPHALT	3.0	6.0	--	2.2	--	--	--				NONE
	8+215 R	GRAVEL	6.0	4.2	3.8	3.0	--	5.3	--	10.7		10.7	REPLACE 300 RCP L=10.7
	8+223 L	GRAVEL	3.0	5.1	2.3	1.8	--	2.0	--				NONE
	8+248 L	ASPHALT	10.0	5.0	7.5	6.0	--	1.4	3.5				NONE
	8+275 R	GRAVEL	3.0	3.5	1.6	1.3	--	1.0	--	43.3		43.3	REPLACE 300 RCP L=43.3
	8+296 R	CONCRETE	10.0	6.2	9.3	--	7.4	33.9	--				
	8+312 R	ASPHALT	3.0	3.2	--	1.1	--	--	--				
	8+361 L	GRAVEL	3.0	2.6	1.2	0.9	--	1.2	--				800 RCP L=5.6 OK
	8+462 L	ASPHALT	3.0	7.5	--	1.7	--	--	--				800 RCP L=12.9 OK
BLUE BLOSSOM LN	8+496 R	ASPHALT	3.0	5.7	--	2.1	--	--	--		7.3		REPLACE 600 W/ 900 L=7.3
	"A" 1+089 R	GRAVEL	3.0	3.1	1.4	--	--	1.2	--				REPLACE 600 RCP L=22.8
	"A" 1+097 R	GRAVEL	3.0	2.6	1.3	1.0	--	1.3	--		22.8		W/ 900mm RCP L=22.8m
	"A" 1+180 R	ASPHALT	3.0	3.2	--	1.2	--	--	--		15.6		REPLACE W/ 900 RCP L=16.6
	"A" 1+205 L	ASPHALT	3.0	7.8	--	2.8	--	--	--				<F>STORM DRAIN
SEYMOUR	"A" 1+228 R	ASPHALT	3.0	11.5	--	4.1	--	--	--				STORM DRAIN 800 CMP L=18.0
	"A" 1+235 L	ASPHALT	3.0	7.4	--	2.7	--	--	--				<F>STORM DRAIN
	"A" 1+265 R	GRAVEL	3.0	2.9	1.3	1.0	--	1.3	--				STORM DRAIN 800 CMP L=6.4
	"A" 1+300 R	GRAVEL	4.8	4.5	3.2	2.6	--	--	1.9				STORM DRAIN 800 CMP L=7.4
	"B" 1+069 L	ASPHALT	3.0	6.8	--	2.4	--	--	--				500 CMP L=9.2 OK

Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME:	OLD ARCATA ROAD
ROAD NO:	536300
PROJECT NO:	RSRN-5904(033)
CONTRACT NO.:	980700
DRAWING FILE NAME:	L:\PROJECTS\980700\DWG\DSN-ALT.DWG
PLOT DATE:	03/10/2003
KP (PM):	6.07-10.16 (3.77-6.25)
EA NO.:	01-276634
PPNO:	01-2001M

DESIGN SECTION	R. W. BROKAW
DESIGNED BY:	LRS
DRAWN BY:	JAB
REVIEWED BY:	RWB
APPROVED BY:	DW

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

OLD ARCATA ROAD

DRIVEWAY SUMMARY TABLE

I-4 | SHEET 4 OF 80

DRIVEWAY SUMMARY (CONTINUED)

	DRIVEWAY STA.	TYPE OF SURFACE	LENGTH (M)	WIDTH (M)	A.B. (CM) [1]	A.C. TONNE [2]	CONCRETE (CM) [3]	ROADWAY EXCV (CM)	ROADWAY EMBK (CM)	CULVERT 450	CULVERT VAR	CULVERT SALV/REMOV	NOTES
	8+814 R	GRAVEL	3.0	6.0	2.7	2.2	--						STORM DRAIN 800 CMP L=6.1
	8+850 R	GRAVEL	3.0	3.6	1.6	1.3	--	0.9	--				
	8+860 R	ASPHALT	3.0	4.8	2.2	1.7	--	2.3	--				STORM DRAIN 600 CMP L=18.4
NEWELL LN	8+865 L	ASPHALT	3.0	13.8	--	5.0	--	--	--				
	8+881 L	ASPHALT	3.0	24.0	--	8.6	--	--	--				500 RCP L=53.5 OK
	8+908 R	GRAVEL	3.0	3.1	1.4	1.1	--	0.6	--				STORM DRAIN 600 CMP L=9.7
	8+936 L	ASPHALT	3.0	13.8	--	5.0	--	--	--				STORM DRAIN 500 CMP L=15.5
HOMEROY AVE	8+965 R	GRAVEL	3.0	8.0	3.6	2.9	--	3.4	--				STORM DRAIN 600 CMP L=18.3
	8+980 L	GRAVEL	3.0	8.0	3.6	2.9	--	3.6	--				500 RCP L=49.0 OK
	8+998 L	GRAVEL	3.0	3.6	1.6	1.3	--	2.2	--				
	9+015 L	GRAVEL	3.0	7.0	3.2	2.5	--	2.5	--				
	9+040 L	GRAVEL	3.0	5.7	2.6	2.1	--	0.4	--				500 RCP L=17.9 OK
	9+046 R	GRAVEL	3.0	6.1	2.7	2.2	--	1.0	--			8.0	STORM DRAIN 500 CMP L=8.0
	9+063 L	GRAVEL	3.0	2.9	1.3	1.0	--	1.3	--				500 RCP L=13.5 OK
	9+064 R	ASPHALT	3.0	6.1	--	2.2	--	--	--			6.1	STORM DRAIN 500 CMP L=6.1
	9+087 R	GRAVEL	3.0	2.5	1.1	0.9	--	1.1	--			8.2	STORM DRAIN 500 RCP L=8.2
	9+099 L	ASPHALT	3.0	7.7	--	2.8	--	--	--				500 RCP L=9.1 OK
	9+138 R	GRAVEL	3.0	2.5	1.1	0.9	--	1.5	--			21.1	STORM DRAIN 500 CMP L=21.1
TR. PARK RD	9+146 R	ASPHALT	3.0	7.7	--	2.8	--	--	--				
INDIANOLA RD	9+180 L	ASPHALT	3.0	17.3	--	6.3	--	--	--			14.0	STORM DRAIN 500 RCP L=14.0
TR. PARK RD	9+204 R	ASPHALT	3.0	7.7	--	2.8	--	--	--				STORM DRAIN 500 CMP L=12.9
	9+243 R	ASPHALT	3.0	10.0	--	1.2	--	--	--			11.1	S. D. RELAY 500 RCP L=11.1
	9+280 R	ASPHALT	3.0	13.0	--	4.7	--	--	--				500 RCP L=20.8 OK
	9+282 L	ASPHALT	3.0	10.5	--	3.8	--	--	--				500 RCP L=21.4 OK
	9+325 R	ASPHALT	3.0	13.6	--	4.9	--	--	--				500 RCP L=29.0 OK
	9+339 R	CONCRETE	3.0	9.7	4.4	--	5.8	4.2	--				
	9+358 R	GRAVEL	3.0	4.5	2.0	1.6	--	1.2	--				STORM DRAIN 500 CMP L=9.1
	9+430 R	GRAVEL	4.0	15.0	9.0	7.2		1.7	2.3				NONE
LILY LN	9+482 R	ASPHALT	4.0	7.1	--	3.4		--					500 CMP L=12.1 OK
	9+537 R	CONCRETE	3.0	3.0	1.4	--	1.8	2.5	--				NONE
LORENZ LN	9+584 L	ASPHALT	5.0	9.1	--	5.5	--	13.9	--				NONE
	9+695 R	ASPHALT	4.0	9.1	--	4.4	--	--	--				200 CMP L=6.1 OK
	9+728 R	ASPHALT	3.0	3.0	1.4	1.1	--	2.7	--				NONE
	9+759 R	ASPHALT	3.0	3.0	1.4	1.1	--	1.1	--				NONE
	9+766 L	ASPH/CONC	6.4	6.0	5.8	4.6	--	--	8.4				NONE
VITUS LN	9+795 R	ASPHALT	3.0	3.1	1.4	1.1	--	1.8	--				OK
	9+857 L	ASPHALT	5.0	12.0	--	7.2	--	--	--				NONE
	9+876 R	ASPHALT	3.0	8.5	--	3.1	--	--	--				(2) 600 CMP L=12.1,L=12.2 OK
	9+901 R	ASPHALT	3.0	8.1	--	2.9	--	--	--				800 RCP L=22.1 OK
	9+930 R	ASPHALT	3.0	8.3	--	3.0	--	--	--				800 RCP L=12.1 OK
	9+962 L	GRAVEL	3.0	5.0	2.2	1.8	--	0.5	--				NONE
	9+985 R	ASPHALT	5.2	4.8	--	3.0	--	--	--		5.1	6.1	REPLACE 1200 CMP L=6.1
NEAR TO ROCKY CRK	10+007 L	GRAVEL	3.0	2.0	0.9	0.7	--	0.5	--				NONE
	10+030 L	ASPHALT	3.0	6.3	--	2.3	--	--	--				NONE
	10+063 L	ASPHALT	3.0	6.0	--	2.2	--	--	--				NONE
ROCKY CREEK RD	10+162 R	ASPHALT	3.0	13.5	--	4.9	--	--	--			17.5	RELAY 450 RCP L=17.5
	10+383 R	ASPHALT	5.0	3.0	--	1.8	--	3.1	--	27.2			REPLACE 300 RCP L=27.2
HALVORSEN CREEK RD	10+605 R	ASPHALT	3.0	9.6	--	3.5	--	--	--	15.2*			REPLACE 300 PVC/RCP L=15.2
	10+725 R	GRAVEL	3.0	3.6	1.6	1.3	--	2.0	--	9.2*			NONE/ PLACE 450 RCP
	10+784 L	GRAVEL	3.0 [4]	5.0	3.8	1.8	--	--	3.5				NONE
			TOTALS		272.4	366.2	16.0	277.5	110	202.9 [5]	23.7 [5]	28.6	175.5
										105.8 [6]	46.7 [6]		
											6.1 [7]		

* ADDITIVE OPTION QUANTITY

(1) AB THICKNESS OF 150mm (EXCEPT CO. MAINTAINED ROADS- 200mm)

(2) AC THICKNESS OF 50mm (EXCEPT CO. MAINTAINED ROADS- 60mm)

(3) CONCRETE THICKNESS OF 200mm

(4) SEE CROSS SECTION

(5) 600mm RCP

(6) 900mm RCP

(7) 1200mm RCP

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD ROAD NO: F3K300 — KP (PM): 6.07-10.86 (3.77-6.75) PROJECT NO.: RSTPL-5904(033) — EA NO.: 01-279634 CONTRACT NO.: 980700 — FPNO: 01-2001R DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-5.DWG PLOT DATE: 03/10/2008	DESIGN SECTION R. W. BRONKALL DESIGNED BY: URS DRAWN BY: JAB REVIEWED BY: RWB APPROVED BY: CJW	**COUNTY OF HUMBOLDT** **DEPARTMENT OF PUBLIC WORKS** **OLD ARCATA ROAD** **FENCE & LANDSCAPE SUMMARY TABLE** I-5 SHEET 5 OF 80

COLD PLANE ASPHALT CONCRETE & BASE (90mm MAX & 60mm MAX)

LOCATION	WIDTH(m)	LENGTH(m)	COLD PLANE 90mm AREA (sm)	COLD PLANE 60mm AREA (sm)	COMMENTS
5+900 TO 7+020 SPOT GRINDING D=60mm					
5+912 TO 5+940 L	3.0	–	–	84	SPOT GRINDING AS DIRECTED BY ENGINEER
5+985 TO 5+991 L	3.0	–	–	102	
5+991 TO 5+999 L	1.2	–	–	9	
5+973 TO 6000 R	1.2	–	–	33	
6+016 TO 6+058 L	2.4	–	–	104	
6+068 TO 6+113 L	1.2	–	–	56	
6+098 TO 6+151 R	3.0	–	–	163	
6+151 TO 6+192 R	1.2	–	–	50	
6+193 TO 6+200 L	1.2	–	–	9	
6+200 TO 6+229 L	3.0	–	–	88	
6+192 TO 6+220 R	3.0	–	–	84	
6+226 TO 6+235 R	1.2	–	–	11	
6+244 TO 6+369 R	1.2	–	–	152	
6+292 TO 6+330 L	1.2	–	–	46	
6+369 TO 6+411 L	1.2	–	–	50	
6+378 TO 6+415 R	3.0	–	–	111	
6+415 TO 6+455 L	3.0	–	–	121	
6+415 TO 6+421 R	1.2	–	–	7	
6+441 TO 6+451 R	1.2	–	–	13	
6+451 TO 6+463 R	3.0	–	–	37	
6+455 TO 6+497 L	1.2	–	–	52	
6+500 TO 6+518 L	3.0	–	–	56	
6+518 TO 6+610 L	1.2	–	–	111	
6+669 TO 6+727 L	1.2	–	–	71	
6+692 TO 6+741 R	1.2	–	–	59	
6+742 TO 6+791 L	3.0	–	–	149	
6+805 TO 6+814 L	3.0	–	–	28	
6+814 TO 7+020 L	1.2	–	–	256	
6+890 TO 6+906 R	3.0	–	–	46	
6+968 TO 7+020 R	1.2	–	–	63	
7+020 TO 8+440 ROADWAY WIDTH GRINDING D=90mm					
7+020 TO 8+440	6.2	1420	8804	–	REPLACE STRUCTURAL SECTION COLD PLANE ENTIRE ROADWAY
8+440 TO A 1+075 SPOT GRINDING D=60mm					
8+440 TO A1+075 R	3.0	–	–	405	SPOT GRINDING AS DIRECTED BY ENGINEER
8+440 TO A1+075 L	3.0	–	–	405	
A 1+075 TO A 1+200 ROADWAY WIDTH GRINDING D=90mm					
A 1+075 TO A 1+200	–	–	3407	–	REPLACE STRUCTURAL SECTION COLD PLANE ENTIRE ROADWAY, ROUNDABOUT INDIANOLA CUTOFF
A 1+200 TO 9+555 SPOT GRINDING D=60mm					SPOT GRINDING AS DIRECTED BY ENGINEER
A1+200 TO A1+237 L	3.0	–	–	111	SPOT GRINDING AS DIRECTED BY ENGINEER
8+823 TO 8+848 R	1.2	–	–	26	
8+830 TO 8+852 L	1.2	–	–	30	
8+928 TO 8+849 L	1.2	–	–	26	
8+955 TO 8+970R	1.2	–	–	19	
8+995 TO 9+071 L	1.2	–	–	93	
9+090 TO 9+099 L	1.2	–	–	11	
9+123 TO 9+134 L	3.0	–	–	33	
9+125 TO 9+137 R	1.2	–	–	15	
9+164 TO 9+189 L	1.2	–	–	30	
9+231 TO 9+274 L	1.2	–	–	52	
9+267 TO 9+279 R	1.2	–	–	15	
9+555 TO 9+705 ROADWAY WIDTH GRINDING D=90mm					
9+555 TO 9+705	6.0	150	900	–	REPLACE STRUCTURAL SECTION COLD PLANE ENTIRE ROADWAY
9+705 TO 9+920 SPOT GRINDING D=60mm					
9+851 TO 9+870 R	1.2	–	–	20	SPOT GRINDING AS DIRECTED BY ENGINEER
9+870 TO 9+886 R	1.2	–	–	22	
9+920 TO 10+580 ROADWAY WIDTH GRINDING D=90mm					
9+920 TO 10+580	5.8	660	3828	–	REPLACE STRUCTURAL SECTION COLD PLANE ENTIRE ROADWAY
10+580 TO 10+930 SPOT GRINDING D=60mm					
10+580 TO 10+612 R	1.2	–	–	38	SPOT GRINDING AS DIRECTED BY ENGINEER
10+605 TO 10+620 L	1.0	–	–	15	
10+620 TO 10+632 R	1.0	–	–	12	
10+740 TO 10+855 R	1.5	–	–	173	
10+805 TO 10+850 L	0.6	–	–	27	
10+857 TO 10+870 L	1.0	–	–	13	
DRIVEWAYS	–		–	851	GRIND AC DWY CONFORMS
ROAD CONFORMS	–	–	–	646	OAR, REDMOND, QUAIL VALLEY, OLE HANSEN, INDIANOLA CUTOFF, INDIANOLA RD. TR PARK, ROCKY CREEK, OAR
		TOTALS	16939	5312	

CONSTRUCTION SITE BMPs

LOCATION	TEMPORARY SOIL STABILIZATION	UNIT	QUANTITY
5+940 – 10+940 R/L	SS-2 TEMPORARY ESA FENCING (SEE TABLE BELOW)	M	500m
5+940 – 10+940 R/L	SS-6 TEMPORARY EROSION CONTROL (STRAW MULCH)	Ha	1.5Ha
	TEMPORARY SEDIMENT CONTROL		
5+940 – 10+940 R/L	SC-1 TEMPORARY SILT FENCE	M	8500m
5+940 – 10+940 R/L	SC-3 SEDIMENT TRAP	EA	3
5+940 – 10+940 R/L	SC-4 TEMPORARY CHECK DAM	EA	11
5+940 – 10+940 R/L	SC-5 TEMPORARY FIBER ROLL	M	790m
5+940 – 10+940 R/L	SC-9 TEMPORARY STRAW BALE BARRIER	M	100m
ALL DI'S SEE SHEET I-3	SC-10 TEMPORARY DRAINAGE INLET PROTECTION	EA	22
	TEMPORARY NON-STORM WATER MANAGEMENT		
7+640, 8+320, 10+710	NS-5 CLEAR WATER DIVERSION	EA	3
	TEMPORARY TRACKING CONTROL		
7+020, B1+00, & 10+580	TC-1 TEMPORARY CONSTRUCTION ENTRANCE	EA	3
	TEMPORARY WASTE MANAGEMENT & MATERIALS HANDLING		
7+960 L & A1+120 R	WM-8 TEMPORARY CONCRETE WASHOUT	EA	5

FOR CONSTRUCTION SITE BMP LAYOUTS REFER TO DEPLOYMENT PLANS (D-PLANS) AVAILABLE THROUGH THE RESIDENT ENGINEER.

LOCATION	ENVIRONMENTALLY SENSITIVE AREAS
5+905	REDMOND CREEK (TRIBUTARY TO FAY SLOUGH)
7+360 TO 7+820	SENSITIVE WETLAND ROADSIDE DITCHES (EAST SIDE OF ROADWAY)
7+645 TO 7+715	COCHRANE CREEK & INTERMITTENT STREAM (TRIBUTARY TO FAY SLOUGH)
8+325	UNNAMED, INTERMITTENT STREAM (TRIBUTARY TO FAY SLOUGH)
8+280 TO 8+380	SENSITIVE WETLAND ROADSIDE DITCHES (WEST SIDE OF ROADWAY)
8+320 TO 8+480	SENSITIVE WETLAND ROADSIDE DITCHES (EAST SIDE OF ROADWAY)
10+010	ROCKY GULCH (TRIBUTARY TO HUMBOLDT BAY)
10+150 TO 10+250	SENSITIVE RIPARIAN AREA (WEST SIDE OF ROADWAY)
10+460 TO 10+560	SENSITIVE RIPARIAN AREA (WEST SIDE OF ROADWAY)
10+713	UNNAMED STREAM (TRIBUTARY TO ROCKY GULCH)

GENERAL NOTES

SURVEY INFORMATION COMPILED FROM BOTH AERIAL PHOTOGRAMMETRY AND GROUND SURVEYS FROM JUNE 1999 TO JANUARY 2001.

RECORD OF SURVEY BOOK 64 RS PAGES 89-110, RECORDED ON FEBRUARY 20, 2007 DEPICTS THE ROADWAY RIGHT OF WAY.

BASIS OF BEARING

THE HORIZONTAL BASIS IS NAD 83 STATE PLANE METRIC, EPOCH 1991.35. THE VERTICAL DATUM IS NGVD 29 METRIC. THE HORIZONTAL CONTROL STATIONS WERE HGPN ____ LOCATED AT _____ AND HGPN _____ LOCATED AT _____

SURVEY COORDINATE TABLE - CONTROL POINTS

	NORTHING	EASTING	ELEVATION	DESCRIPTION
3	668,809.975	1,825,183.774	3.709	MON.IN.WELL N1/16 S / S
4	663,328.549	1,824,015.712	2.955	CL.MON.WELL (OAR &KNEE, RD.)
5	663,186.395	1,820,622.812	38.487	GPSPK.5
6	668,820.484	1,824,568.005	0.000	PKGPS
7	663,337.692	1,821,067.524	3.024	GPSPK.7
8	663,389.537	1,821,302.696	3.033	GPSPK.8
9	663,684.267	1,824,045.883	6.850	PK.GPS9
10	666,065.824	1,824,036.717	2.867	PK.GPS10
11	666,570.701	1,823,829.373	0.000	PKGPS
12	662,879.501	1,820,612.826	44.400	GPSPK.12
30	663,249.869	1,820,767.050	25.426	RC30
31	663,257.820	1,820,861.049	18.041	CP.30.PK
32	663,321.917	1,820,963.494	9.760	CP.32.PK
33	663,212.411	1,823,976.634	4.302	RC.CP33
34	664,173.670	1,823,873.525	7.340	RC.CP34
35	664,183.817	1,823,870.327	7.573	CP.35.PK
36	664,479.148	1,823,802.672	11.477	CP.36.RB
37	664,630.311	1,823,806.986	11.968	CP.37.RB
38	664,893.420	1,823,847.438	9.167	CP.38.PK
39	665,170.139	1,823,843.572	2.332	CP39.PK
40	665,366.866	1,823,858.917	3.196	CP.40.PK
41	665,565.759	1,823,851.954	9.520	CP.41.PK
42	665,664.359	1,823,880.142	7.603	CP.42.RB
43	665,851.465	1,823,875.584	1.899	CP43.RB
44	666,147.380	1,824,097.916	4.429	CP.44.PK
45	666,495.907	1,824,328.262	13.108	CP.45.PK.OLD
46	666,744.338	1,824,507.255	15.984	CP46.PK
47	666,895.373	1,824,570.976	19.791	CP.47.RB
48	666,976.748	1,824,605.691	16.676	CP48.PK
49	667,274.652	1,824,672.222	6.399	CP.48.RB
50	667,400.204	1,824,770.420	4.464	CP50.MON.WELL
51	667,533.690	1,824,786.552	5.701	CP.51.RB
52	667,597.214	1,824,811.874	4.685	CP52.RB
53	667,785.247	1,824,836.516	3.676	CP.53.RB
54	668,000.647	1,824,911.656	3.876	CP54.RB
55	668,213.497	1,824,922.814	5.448	CP55.PK
56	668,334.000	1,824,984.303	7.628	CP56.PK
57	668,422.443	1,825,091.881	9.860	CP57.PK
58	668,573.286	1,825,190.925	9.818	CP58.PK
100	668,484.235	1,825,141.431	10.148	AT100
101	668,305.542	1,824,866.518	0.792	AT101
102	668,222.931	1,824,931.589	5.467	AT102
103	668,223.835	1,825,224.586	22.579	AT103
104	667,622.004	1,824,814.066	4.182	AT104
105	667,348.443	1,824,826.208	7.444	AT105
106	667,239.464	1,824,666.209	7.433	AT.106
107	666,906.891	1,824,571.687	19.810	AT107
108	666,675.986	1,824,456.322	16.017	AT108
109	666,409.297	1,824,270.944	11.200	AT109
110	666,273.697	1,823,953.994	5.290	AT.110
111	666,153.014	1,824,325.513	8.529	AT111
112	665,938.140	1,823,936.442	2.003	AT.112
113	665,465.160	1,823,854.393	6.826	AT113
114	665,363.086	1,824,052.214	6.919	AT.114
115	665,205.283	1,823,848.941	2.539	AT.115
116	664,882.511	1,824,028.371	3.736	AT116
117	664,786.446	1,823,835.155	4.308	AT117
118	664,477.723	1,823,806.942	11.441	AT.118
119	664,176.867	1,823,791.894	5.944	AT.119
120	664,166.118	1,823,993.090	7.177	AT.120
121	663,682.541	1,824,041.540	6.783	AT121

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BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: 1R5300	KP (PM): 5.60-10.86 (3.77-6.75)	DESIGNED BY: DRR
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-273634L	DRAWN BY: JAE
	CONTRACT NO.: 980700	FPNO: 01-20091R	REVIEWED BY: RWB
	DRAWING FILE NAME:	L:\PROJECTS\980700\DWG\CDSN-16.DWG	APPROVED BY: CJM
	PLOT DATE: 03/10/2005		

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
SURVEY CONTROL POINTS & DESIGN LAYOUT POINTS

I-6 | SHEET 6 OF 80

'OAR', 'A', 'B' LINE' LAYOUT COORDINATE TABLE

	NORTHING	EASTING	ELEVATION	DESCRIPTION
5200	663433.123	1824025.356	---	5+900 BEGIN PROJECT
5201	663625.653	1824043.112	---	6+093.347 BC
5202	663646.316	1823819.062	---	RP R=225.000
5203	663714.875	1824033.362	---	6+183.706 EC
5204	663900.039	1823973.804	---	6+379.165 BC
5205	663504.914	1822735.624	---	RP R=1300.001
5206	663945.647	1823958.637	---	6+426.283 EC
5207	664158.567	1823881.908	---	6+652.606 BC
5208	664361.981	1824446.374	---	RP R=600.000
5209	664197.909	1823869.243	---	6+695.945 EC
5210	664322.200	1823833.909	---	6+823.161 BC
5211	664490.373	1824425.468	---	RP R=615.000
5212	664387.425	1823819.146	---	6+890.069 EC
5213	664437.233	1823810.689	---	6+940.590 BC
5214	664508.375	1824229.692	---	RP R=425.000
5215	664521.640	1823804.899	---	7+025.336 EC
5216	664621.488	1823808.017	---	7+125.232 BC
5217	664604.759	1824343.756	---	RP R=536.000
5218	664712.931	1823818.785	---	7+217.420 EC
5219	664742.150	1823824.806	---	7+247.253 BC
5220	664865.258	1823237.151	---	RP R=600.000
5221	664848.026	1823836.958	---	7+353.965 EC
5222	665369.290	1823850.778	---	7+875.396 PI
5223	665517.748	1823852.599	---	8+023.875 BC
5224	665511.226	1824252.546	---	RP R=400.00
5225	665597.456	1823861.951	---	8+104.265 EC
5226	665633.873	1823869.991	---	8+141.558 BC
5227	665699.623	1823572.162	---	RP R=305.000
5228	665707.203	1823877.068	---	8+215.409 EC
5229	665771.041	1823875.481	---	8+279.267 BC
5230	665776.881	1824110.409	---	RP R=235.000
5231	665915.547	1823920.681	---	8+433.426 EC
5232	665969.296	1823959.964	---	OAR8+500=A1+000
5233	665988.475	1823973.981	---	A 1+023.757 BC
5234	666165.490	1823731.775	---	RP R=300.000
5235	666032.750	1824000.608	---	A 1+075.589 EC
5236	666097.390	1824032.703	---	A 1+147.669 PI=B1+000
5237	66614.724	1824056.915	---	A 1+177.447 BC
5238	666236.590	1823969.597	---	RP R=150.000
5239	666148.389	1824090.853	---	A 1+225.454 PCC
5240	667408.150	1822360.939	---	RP R=2130.028
5241	666206.996	1824131.574	---	A 1+296.249 EC
5242	666217.402	1824135.719	---	A 1+303.629=OAR8+800
5243	666299.403	1824194.772	---	8+905.150 BC
5244	665097.548	1825965.408	---	RP R=2140.001
5245	666342.120	1824224.533	---	8+957.213 EC
5246	666437.462	1824292.694	---	9+074.414 BC
5247	668763.765	1821038.725	---	RP R=4000.000
5248	666520.455	1824350.455	---	9+175.531 EC
5249	666623.341	1824420.149	---	9+299.800 PI
5250	666717.372	1824484.323	---	9+413.643 BC
5251	666956.950	1824133.286	---	RP R=425.000
5252	666802.101	1824529.072	---	9+509.667 EC
5253	666860.905	1824552.079	---	9+572.811 BC
5254	666532.989	1825390.214	---	RP R=900.000
5255	666896.706	1824566.983	---	9+611.594 EC
5256	666924.147	1824579.107	---	9+641.594 BC
5257	667186.832	1823984.551	---	RP R=650.000
5258	667031.978	1824615.835	---	9+755.654 EC
5259	667237.848	1824666.335	---	9+967.627 BC
5260	667190.201	1824860.576	---	RP R=200.000
5261	667322.625	1824710.697	---	10+064.247 EC
5262				10+100.611 BC USE OAR SCHNEIDER
5263				RP R=200.000 USE OAR SCHNEIDER
5264				10+228.543 EC USE OAR SCHNEIDER
5265				10+296.516 BC USE OAR SCHNEIDER
5266				RP R=220.000 USE OAR SCHNEIDER
5267				10+337.622 EC USE OAR SCHNEIDER

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'OAR', 'A', 'B' LINE' LAYOUT COORDINATE TABLE

	NORTHING	EASTING	ELEVATION	DESCRIPTION
5268	667612.508	1824807.923		10+577.942 BC
5269	667694.105	1824514.041		RP R=305.000
5270	667672.568	1824818.279		10+438.989 EC
5271	667717.459	1824821.457		10+483.989 BC
5272	667703.332	1825020.958		RP R=200.000
5273	667769.460	1824832.206		10+537.251 EC
5274	667848.281	1824859.821		10+620.769 BC
5275	668178.92'	1823916.064		RP R=1000.000
5276	667905.033	1824877.875		10+680.318 EC
5277	668004.329	1824906.102		10+783.561 BC
5278	668072.800	1824665.662		RP R=250.000
5279	668074.678	1824915.655		10+854.796 EC
5280	668121.200	1824915.305		10+901.320 BC
5281	668123.649	1825241.454		RP R=326.136
5282	668149.852	1824916.351		10+930 END PROJECT
5283	668238.302	1824936.001		11+020.604 EC
5284	666133.999	1824011.397		B 1+042.357 BC
5285	666154.054	1824001.644		B 1+064.679 EC
5286	666205.732	1823981.108		B 1+120.288 END
5287	667343.517	1824728.980		OS 1+000 BC
5288	667475.742	1824579.100		OS RP R=200.191
5289	667447.990	1824777.166		OS 1+116.888 EC
5290	667530.370	1824788.708		OS 1+200.072 BC
5291	667474.867	1825184.839		OS RP R=400.000
5292	667581.880	1824799.419		OS 1+252.722 EC

L:\PROJECTS\980700\SURVEY\2003-11-21_Layout_Design.txt

ROUNDABOUT CURBING LAYOUT COORDINATE TABLE

	NORTHING	EASTING	ELEVATION	DESCRIPTION
5300	666066.895	1824025.578		TC EC
5301	666052.926	1824046.311		RP R=25.000
5302	666076.831	1824038.995		TC PRC
5236	666097.390	1824032.703	---	A 1+147.669 PI=B1+000, RP R=21.500
5303	666092.468	1824053.632		TC PRC
5304	666083.309	1824092.569		RP R=40.000
5305	666073.403	1824012.388		TC BC
5306	666081.659	1823973.249		RP R=40.000
5307	666091.891	1824011.918		TC PRC
5236	666097.390	1824032.703	---	A 1+147.669 PI=B1+000, RP R=21.500
5308	666103.865	1824012.201		TC PRC
5309	666111.394	1823988.362		RP R=25.000
5310	666120.438	1824011.669		TC EC
5311	666127.495	1824023.572		TC BC
5312	666143.571	1824042.718		RP R=25.000
5313	666120.945	1824053.350		TC BC

I:\PROJECTS\980700\SURVEY\2003-11-21_Layout_Design.txt

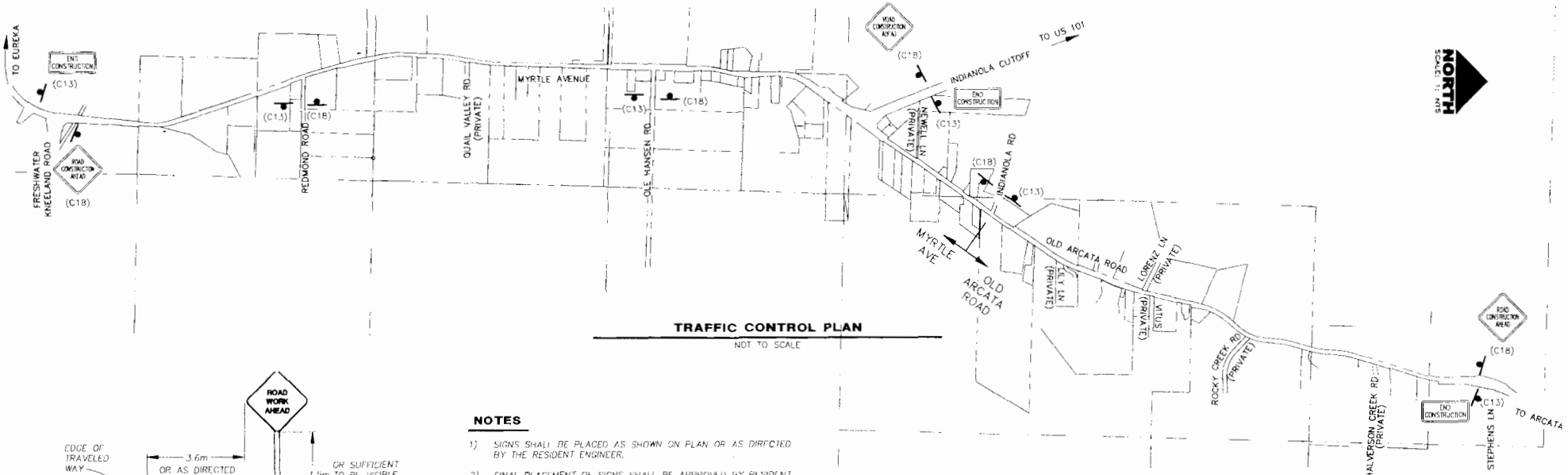
DRAINAGE LAYOUT COORDINATE TABLE

	NORTHING	EASTING	ELEVATION	DESCRIPTION
5400	665955.824	1823961.449	0.390	1-000SDDITCH (RT. OF 8+490)
5401	666068.892	1824044.006	1.666	1-140SDDITCHPI
5402	666076.379	1824050.710	1.800	1+150.05SDDITCHPI
5403	666084.455	1824056.607	1.933	1+160.05SDDITCHPI
5404	666093.121	1824061.697	2.067	1+170.10SDDITCHPI
5405	666137.574	1824094.154	2.800	1+225.141SDDITCH (AT OUTLET OF S. D.)
5406	667272.931	1824687.294	3.653	CLALUMBOX ROCKYCR
5407	667283.259	1824674.508	3.630	CLALUMBOX ROCKYCR
5408	667933.719	1824895.487	0.575	CLPIPE ROCKYTRIB
5409	667939.720	1824878.212	0.555	CLPIPE ROCKYTRIB
5410	665205.751	1823832.914	0.954	CC0+100
5411	665140.694	1823831.877	1.119	CC0+165.000BC
5412	665138.662	1823833.845	1.057	CC0+168.207EC
5413	665140.662	1823833.877	-99999.000	RADPT
5414	665138.567	1823836.742	0.480/ 1.134	CLCCBOXOUTLET
5415	665138.280	1823851.740	0.518/ 1.172	CLCCBOXINLET
5416	669137.727	1823864.977	1.205	CC0+199.355PI
5417	665138.347	1823874.331	1.230	CC0+208.729CONFORM
5418	665815.425	1823866.686	-0.378	CL1.2RCP8325
5419	665819.648	1823888.280	-0.240	CL1.2RCP8325

Metric	BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD ROAD NO.: FJK300 KP (PM): 6.27-10.86 (3.77-6.75) PROJECT NO.: HSIPL-5804(033) EA NO.: 01-279634L CONTRACT NO.: 980700 PPNO: 01-2003R DRAWING FILE NAME: L:\PROJECTS\980700\DWG\T-1.DWG PLOT DATE: 03/10/2008	DESIGN SECTION: K. H. BRONKALL DESIGNED BY: LWS DRAWN BY: JAR REVIEWED BY: RWL APPROVED BY: CJW	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS OLD ARCATA ROAD CONSTRUCTION AREA SIGNS, QUANTITIES AND DETAILS	T-1 SHEET 7 OF 80

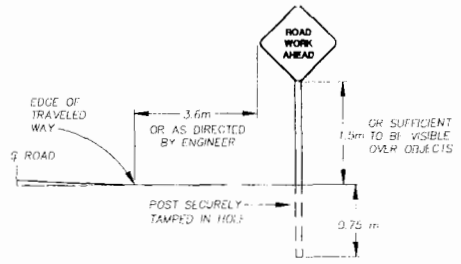
CONSTRUCTION AREA SIGN SUMMARY

SIGN TYPE	QTY	DESCRIPTION	SIZE	REMARKS	POST SIZE	NUMBER OF POSTS
C18	6	ROAD CONSTRUCTION AHEAD	1200 x 1200mm	VISIBLE AT ALL TIMES	100 x 100mm	1
C13	6	END CONSTRUCTION	1200 x 450mm (MIN)	VISIBLE AT ALL TIMES	100 x 100mm	1



TRAFFIC CONTROL PLAN

NOT TO SCALE

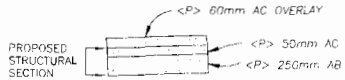


RURAL CONSTRUCTION AREA SIGN

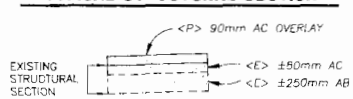
NOT TO SCALE

NOTES

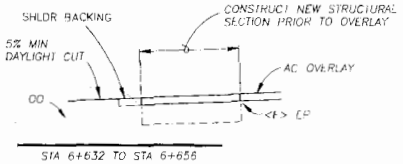
1) SIGNS SHALL BE PLACED AS SHOWN ON PLAN OR AS DIRECTED BY THE RESIDENT ENGINEER.
2) FINAL PLACEMENT OF SIGNS SHALL BE APPROVED BY RESIDENT ENGINEER.
3) ADDITIONAL PORTABLE SIGNS SHALL BE USED AS REQUIRED FOR OTHER ROADSIDE WORK.
4) SEE STANDARD PLAN T13 FOR TRAFFIC CONTROL SYSTEM.
5) IN ADDITION TO CONSTRUCTION AREA SIGNS AND WHEN DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL UTILIZE FLAGMEN AS NECESSARY TO DIRECT TRAFFIC.
6) DISTANCE TO C18/C23 AND C13/C14 MAY BE EXTENDED TO ENCOMPASS SITES WITHIN ONE MILE OF EACH OTHER.



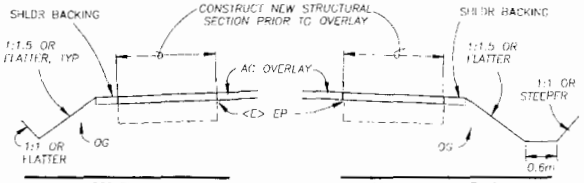
TYPICAL STRUCTURAL SECTION



TYPICAL OVERLAY SECTION

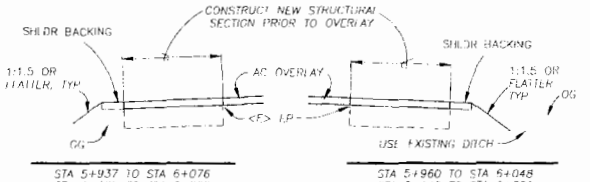


STA 6+632 TO STA 6+656



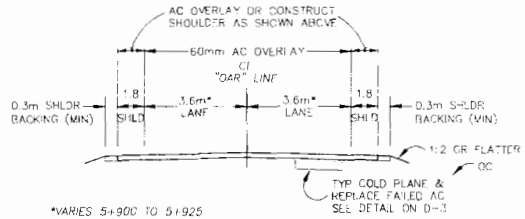
STA 6+076 TO STA 6+125
STA 6+220 TO STA 6+280
STA 6+352 TO STA 6+416

STA 6+048 TO STA 6+140
STA 6+320 TO STA 7+020



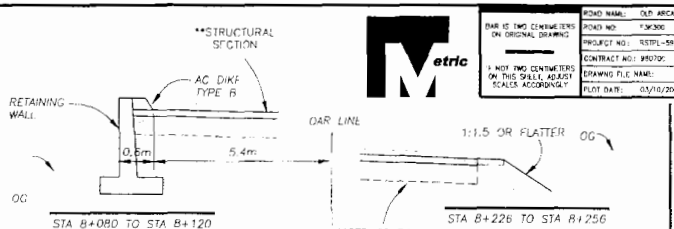
STA 5+937 TO STA 6+076
STA 6+125 TO STA 6+220
STA 6+280 TO STA 6+352
STA 6+416 TO STA 6+632
STA 6+656 TO STA 7+020

STA 5+960 TO STA 6+048
STA 6+140 TO STA 6+320



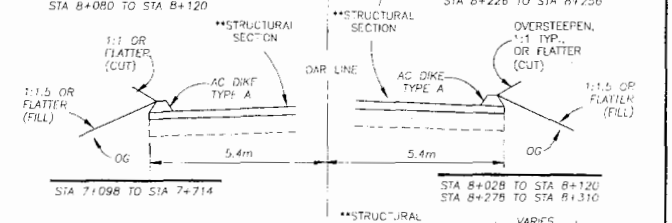
OLD ARCATA RD TYPICAL SECTIONS

REACH ONE (OVERLAY AND WIDENING)
STA 5+900 TO STA 7+020



STA 8+080 TO STA 8+120

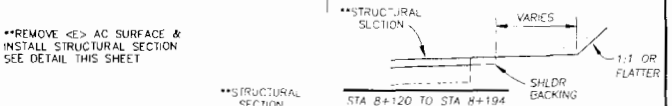
STA 8+226 TO STA 8+256



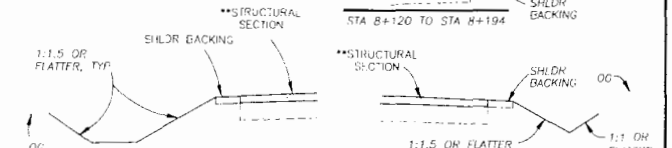
STA 7+098 TO STA 7+714

STA 8+028 TO STA 8+120
STA 8+278 TO STA 8+310

**REMOVE <E> AC SURFACE & INSTALL STRUCTURAL SECTION SEE DETAIL THIS SHEET

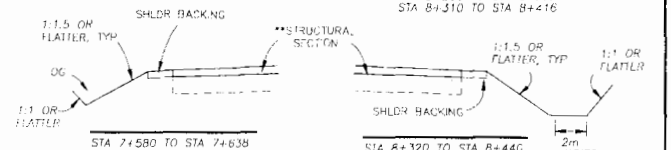


STA 8+120 TO STA 8+194



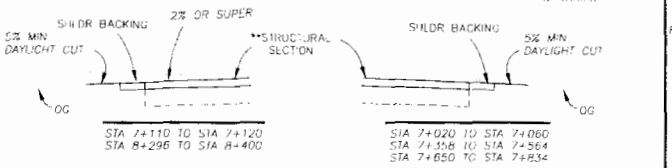
STA 7+638 TO STA 7+712

STA 7+060 TO STA 7+230
STA 7+962 TO STA 8+028
STA 8+194 TO STA 8+226
STA 8+256 TO STA 8+272
STA 8+310 TO STA 8+416



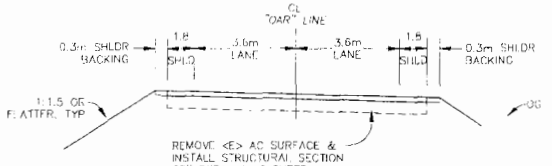
STA 7+580 TO STA 7+638

STA 8+320 TO STA 8+440



STA 7+110 TO STA 7+120
STA 8+296 TO STA 8+400

STA 7+020 TO STA 7+060
STA 7+358 TO STA 7+564
STA 7+650 TO STA 7+834



OLD ARCATA RD TYPICAL SECTIONS

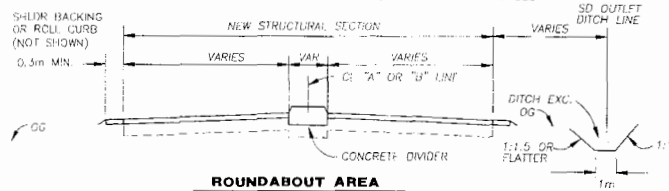
REACH TWO (NEW PROFILE GRADE AND STRUCTURAL SECTION)
STA 7+020 TO STA 8+440

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	D-1
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: 73K300	KP (PM): 6.07-10.85 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 8 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634	DRAWN BY: JAR		
	CONTRACT NO.: 1H070	PPNO: 01-20CIP	REVIEWED BY: RWB	TYPICAL SECTIONS AND DETAILS	
	DRAWING FILE NAME: L:\PROJECTS\1H0700\DWG\CDSN-DD1.DWG		APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				

NOTES:

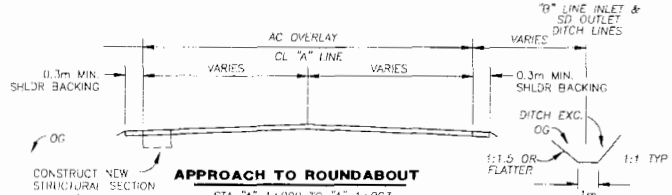
1. SHOULDER BACKING=CLASS 3 AGGREGATE BASE
2. ALL TYPICAL SECTION AND DETAIL DRAWINGS ARE NOT TO SCALE.

STA 9+540 TO STA 9+555



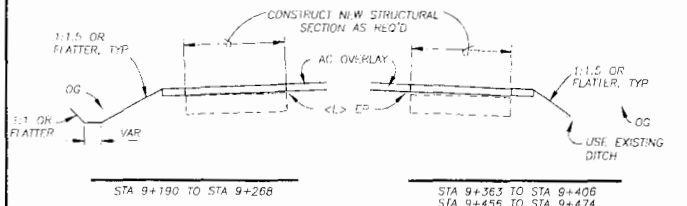
ROUNDABOUT AREA

STA "A" 1+075 TO "A" 1+200
STA "B" 1+000 TO "B" 1+064.679
SEE SHEETS L31 & L32 FOR FURTHER DETAILS.



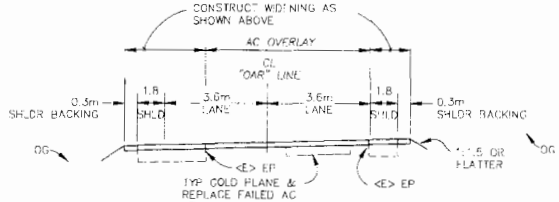
APPROACH TO ROUNDABOUT

STA "A" 1+000 TO "A" 1+093
STA "A" 1+200 TO "A" 1+303.629
STA "B" 1+040 TO "B" 1+120.288



STA 9+190 TO STA 9+268

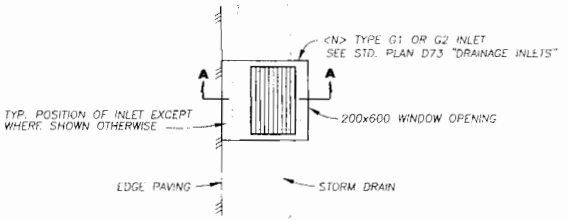
STA 9+363 TO STA 9+406
STA 9+455 TO STA 9+474



OLD ARCATA RD TYPICAL SECTIONS

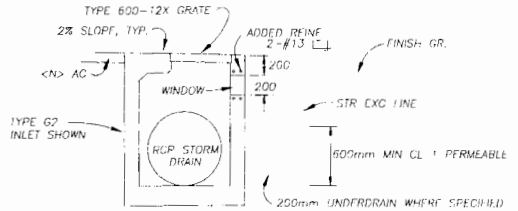
REACH THREE (OVERLAY AND WIDENING)
STA 8+440 TO STA 8+500="A"1+000, "A" LINE, STA "A"1+303.629=8+800 TO STA 9+555
EXCEPTION: "A"1+075 TO "A"1+200 – NEW PROFILE GRADE AND STRUCTURAL SECTION

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD			DESIGN SECTION R. W. BROWNLEE	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	D-2
	ROAD NO: 23K300	KP (PM): 6.07 10.86 (3.77-6.75)		DESIGNED BY: JRS	OLD ARCATA ROAD	SHEET 9 OF 80
	PROJECT NO.: RSTPL-5904(031)	EA NO.: 01-279634		DRAWN BY: JAB		
	CONTRACT NO.: 983700	PPNO: 01-2061P		REVIEWED BY: RMG	TYPICAL SECTIONS AND DETAILS	
	DRAWING FILE NAME: E:\PROJECTS\983700\DWG\DSN-002.DWG			APPROVED BY: CJW		
	PLOT DATE: 03/19/2008					

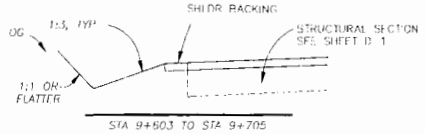


TYPICAL STORM DRAIN INLET - PLAN

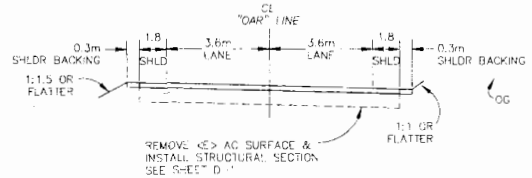
BETWEEN STA "A" 1+225.141 AND "OAR" 9+362.993



TYPICAL INLET - SECTION A-A

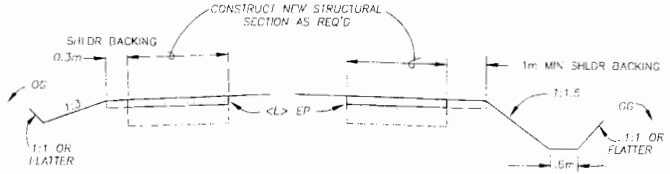


STA 9+603 TO STA 9+705

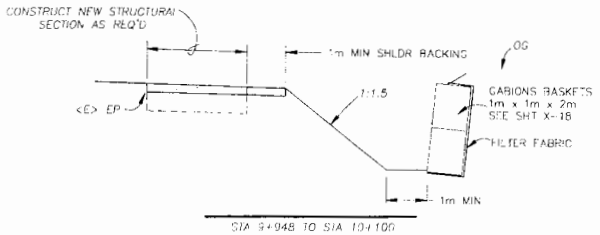


OLD ARCATA RD TYPICAL SECTIONS

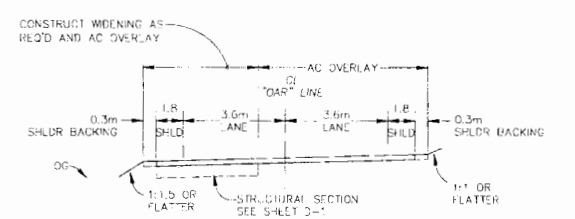
REACH FOUR (NEW PROFILE GRADE AND STRUCTURAL SECTION)
STA 9+555 TO STA 9+705



STA 9+705 TO STA 9+730 | *STA 10+010 TO STA 10+200 (STA OS 1+000 TO STA OS 1+060)*



STA 9+948 TO STA 10+100

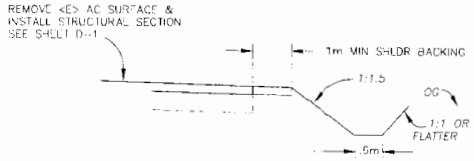


OLD ARCATA RD TYPICAL SECTIONS

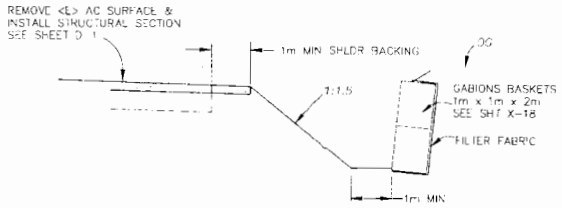
REACH FIVE (OVERLAY AND WIDENING)
STA 9+705 TO STA 9+920

NOTES:

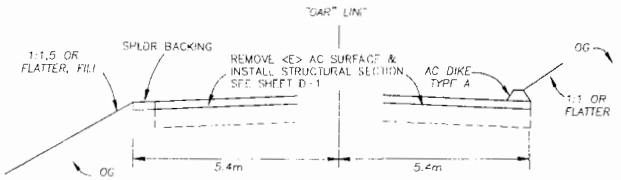
1. SHOULDER BACKING =CLASS 3 AGGREGATE BASE
2. ALL TYPICAL SECTION AND DETAIL DRAWINGS ARE NOT TO SCALE



STA 10+010 TO STA 10+200 (STA OS 1+000 TO STA OS 1+060)

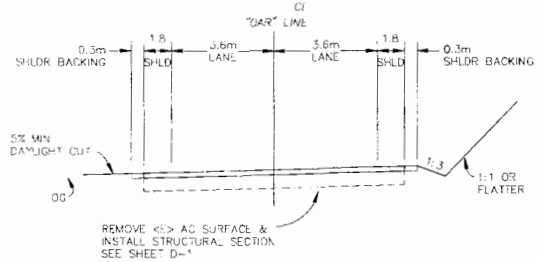


STA 9+948 TO STA 10+100



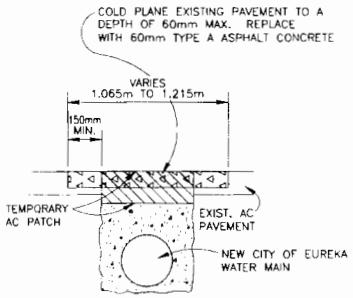
STA 10+200 TO STA 10+208
STA 10+282 TO STA 10+580
STA "OS" 1+040 TO STA "OS" 1+252

STA 10+255 TO STA 10+350
STA 10+390 TO STA 10+440
STA "OS" 1+160 TO STA "OS" 1+252

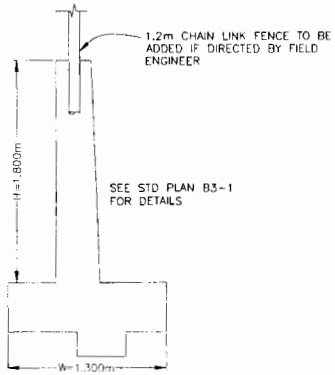


OLD ARCATA RD TYPICAL SECTIONS

REACH SIX (NEW PROFILE GRADE AND STRUCTURAL SECTION)
STA 9+920 TO STA 10+580 ("OS" ALIGNMENT INCLUDED)

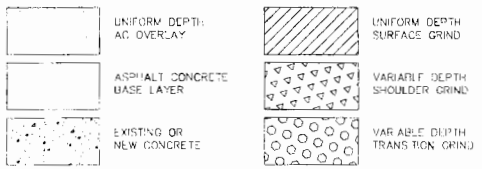


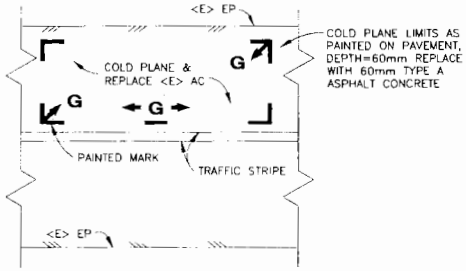
ADDITIVE OPTION 2
TRENCH PAVING DETAIL



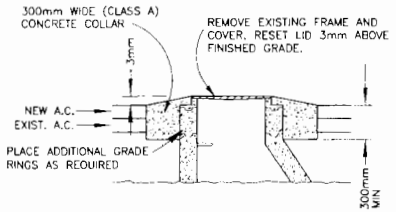
TYPE 1 RETAINING WALL
STA 8+077 TO STA 8+120

LEGEND

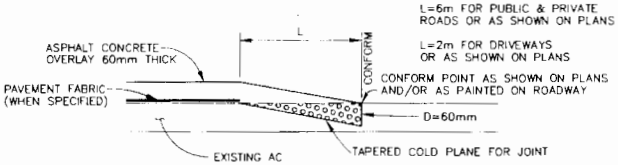




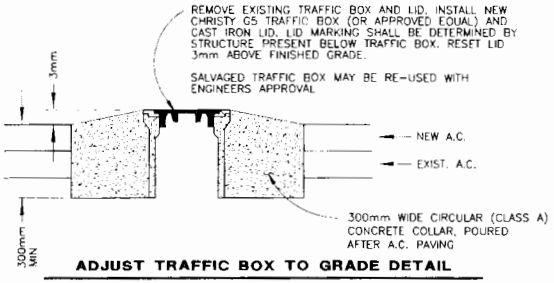
COLD PLANE LIMITS AS
PAINTED ON THE ROADWAY



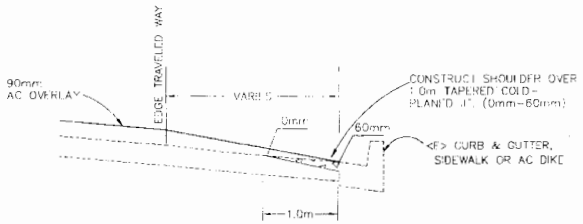
ADJUST SEWER MANHOLE COVER TO GRADE DETAIL



VARIABLE DEPTH TRANSITION GRIND DETAIL



ADJUST TRAFFIC BOX TO GRADE DETAIL

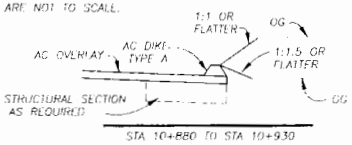


VARIABLE DEPTH SHOULDER GRIND DETAIL

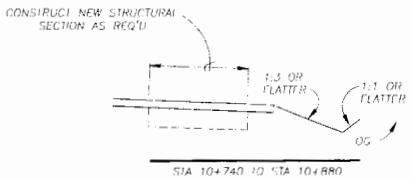
N.T.S.

NOTES

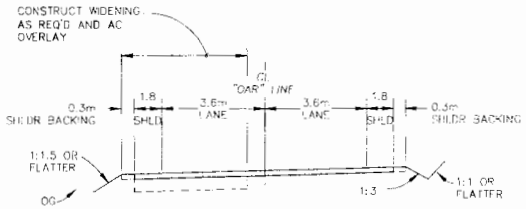
1. SHOULDER BACKING = CLASS 3 AGGREGATE BASE
2. ALL TYPICAL SECTION AND DETAIL DRAWINGS ARE NOT TO SCALE.



STA 10+880 TO STA 10+930



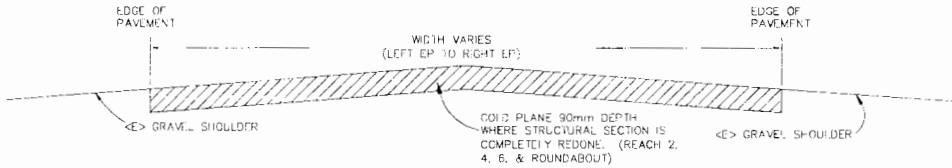
STA 10+740 TO STA 10+880



OLD ARCATA RD TYPICAL SECTIONS

REACH SEVEN (OVERLAY AND WIDENING)
STA 10+580 TO STA 10+930

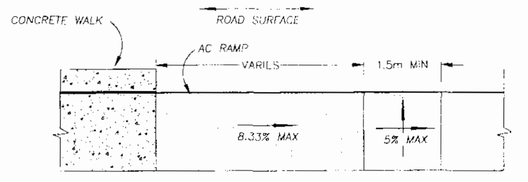
NOTE: SHOULDER BACKING = CLASS 3 AGGREGATE BASE



UNIFORM DEPTH GRIND DETAIL

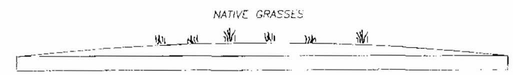
N.T.S.

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	D-4
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: UHS	OLD ARCATA ROAD	SHEET 11 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279534	DRAWN BY: JAB	ROUNDABOUT TYPICAL SECTIONS AND DETAILS	
	CONTRACT NO.: 980700	PPNO: 01-2001P	REVIEWED BY: RWB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN D04.DWG		APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				



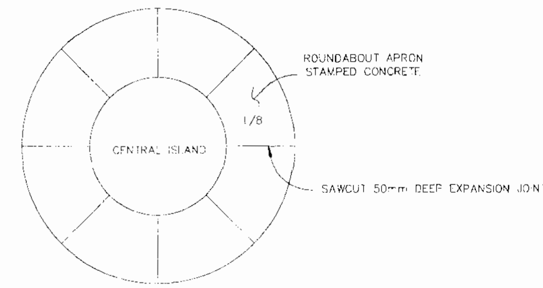
ADA A.C. RAMP

N.T.S.



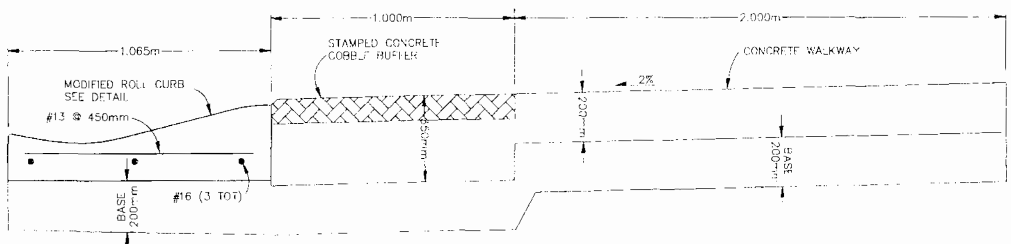
CENTRAL ISLAND LANDSCAPING ELEVATION VIEW

N.T.S.



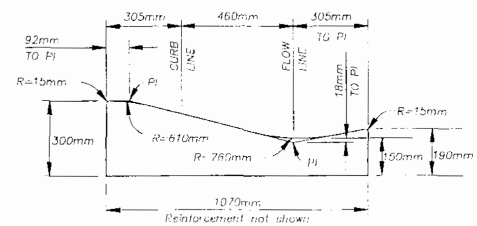
ROUNDABOUT EXPANSION JOINT DETAIL

N.T.S.



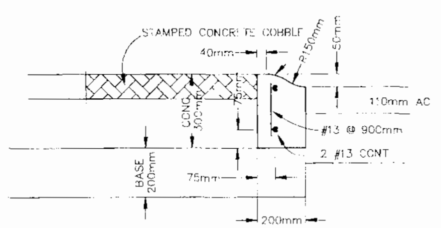
WALKWAY WITH ROLLCURB SECTION

N.T.S.



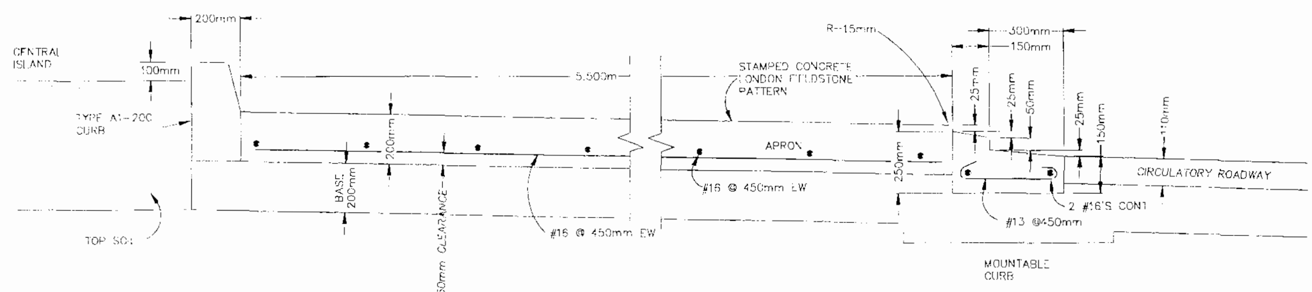
MODIFIED ROLL CURB DETAIL

N.T.S.



SPLITTER ISLAND CURB DETAIL

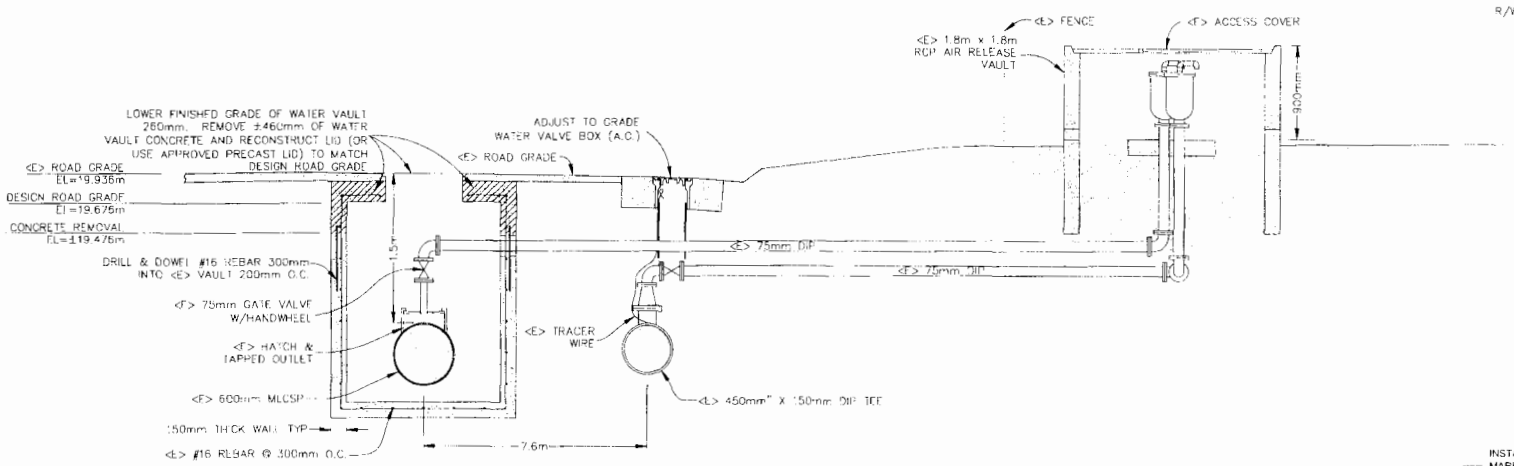
N.T.S.



MOUNTABLE CURB, APRON, AND CENTRAL ISLAND SECTION

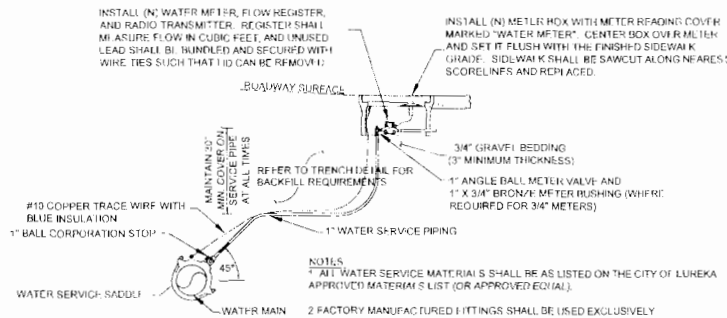
N.T.S.

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	D-5
	ROAD NO.: 35K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 12 OF 80
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-275A34	DRAWN BY: JAB		
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB	UTILITY TYPICAL SECTIONS AND DETAILS	
	DRAWING FILE NAME: ...\PROJECTS\980709\DWG\CDSH-005.DWG		APPROVED BY: CW		
	PLOT DATE: 11/10/2008				



WATER VAULT DETAIL STA 9+620

N.T.S.

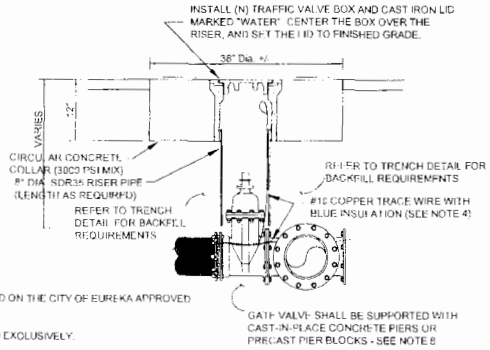


NOTES:

1. ALL WATER SERVICE MATERIALS SHALL BE AS LISTED ON THE CITY OF EUREKA APPROVED MATERIALS LIST (OR APPROVED EQUAL).
2. FACTORY MANUFACTURED FITTINGS SHALL BE USED EXCLUSIVELY.
3. #10 COPPER TRACE WIRE WITH BLUE INSULATION SHALL BE TAPED TO ALL WATER MAINS, SERVICES, AND FITTINGS. TRACE WIRE SHALL BE SECURELY CONNECTED TO THE WATER MAIN TRACE WIRE AT ONE END, AND SHALL TERMINATE IN A LOOP JUST BELOW THE LID IN THE METER BOX AT THE OTHER END.
4. ALL WATER SERVICE SADDLES SHALL HAVE ALL EXPOSED NUTS AND BOLTS COMPLETELY COVERED WITH SPRAY-ON RUBBERIZED UNDERCOATING.
5. CONNECTIONS BETWEEN FITTINGS AND WATER SERVICE PIPING SHALL BE MADE WITH PACK JOINTS, AND STAINLESS STEEL INSERT STIFFENERS SHALL BE USED AS NEEDED WHEN CONNECTING WATER SERVICE PIPING TO PACK JOINTS.

RELOCATE WATER METER DETAIL STA 9+990
CITY OF EUREKA WATER SERVICE INSTALLATION DETAIL

N.T.S.



NOTES:

1. ALL WATER SERVICE MATERIALS SHALL BE AS LISTED ON THE CITY OF EUREKA APPROVED MATERIALS LIST (OR APPROVED EQUAL).
2. FACTORY MANUFACTURED FITTINGS SHALL BE USED EXCLUSIVELY.
3. ALL WATER MAIN FITTINGS SHALL HAVE ALL EXPOSED NUTS AND BOLTS COMPLETELY COVERED WITH SPRAY-ON RUBBERIZED UNDERCOATING, AND ALL FITTINGS SHALL BE WRAPPED WITH 6 MIL POLYETHYLENE PLASTIC PRIOR TO TRENCH BACKFILL.
4. #10 COPPER TRACE WIRE WITH BLUE INSULATION SHALL BE TAPED TO ALL WATER MAINS AND FITTINGS. TRACE WIRE RUNNING UP TO A VALVE BOX OR OTHER MID-LINE ACCESS POINT SHALL BE SECURELY CONNECTED TO THE WATER MAIN TRACE WIRE AT ONE END, AND SHALL TERMINATE IN A LOOP JUST BELOW THE LID IN THE TRAFFIC BOX AT THE OTHER END.
5. ALL MAIN LINE GATE VALVES SHALL BE MECHANICALLY RESTRAINED. THRUST BLOCKS SHALL ONLY BE INSTALLED WHEN SPECIFICALLY REQUIRED BY THE ENGINEER.
6. DIVISION GATE VALVE BOX LIDS SHALL HAVE A 3" DIAMETER CIRCLE OF WELD BEAD PLACED ON THEM, WITH THE CENTER OF THE CIRCLE BEING ON THE CENTER OF THE VALVE BOX LID. THIS WELD SHALL NOT EXCEED 1/4" IN WIDTH OR HEIGHT.
7. THE NEW TRAFFIC BOX SHALL NOT COME INTO CONTACT WITH THE RISER PIPE.
8. NEW GATE VALVE ASSEMBLIES SHALL BE SUPPORTED DURING INSTALLATION EITHER BY RESTING THE ASSEMBLY ON CAST-IN-PLACE CONCRETE PIERS OR A PRECAST PIER BLOCK. OTHER SUPPORT METHODS USED DURING INSTALLATION, SUCH AS BRIDGING BEAMS OR BOOM CRANES, ARE SUBJECT TO APPROVAL BY THE ENGINEER.
9. ALL VALVES CONNECTING TO FITTINGS SHALL BE FLANGED TO THE FITTING.

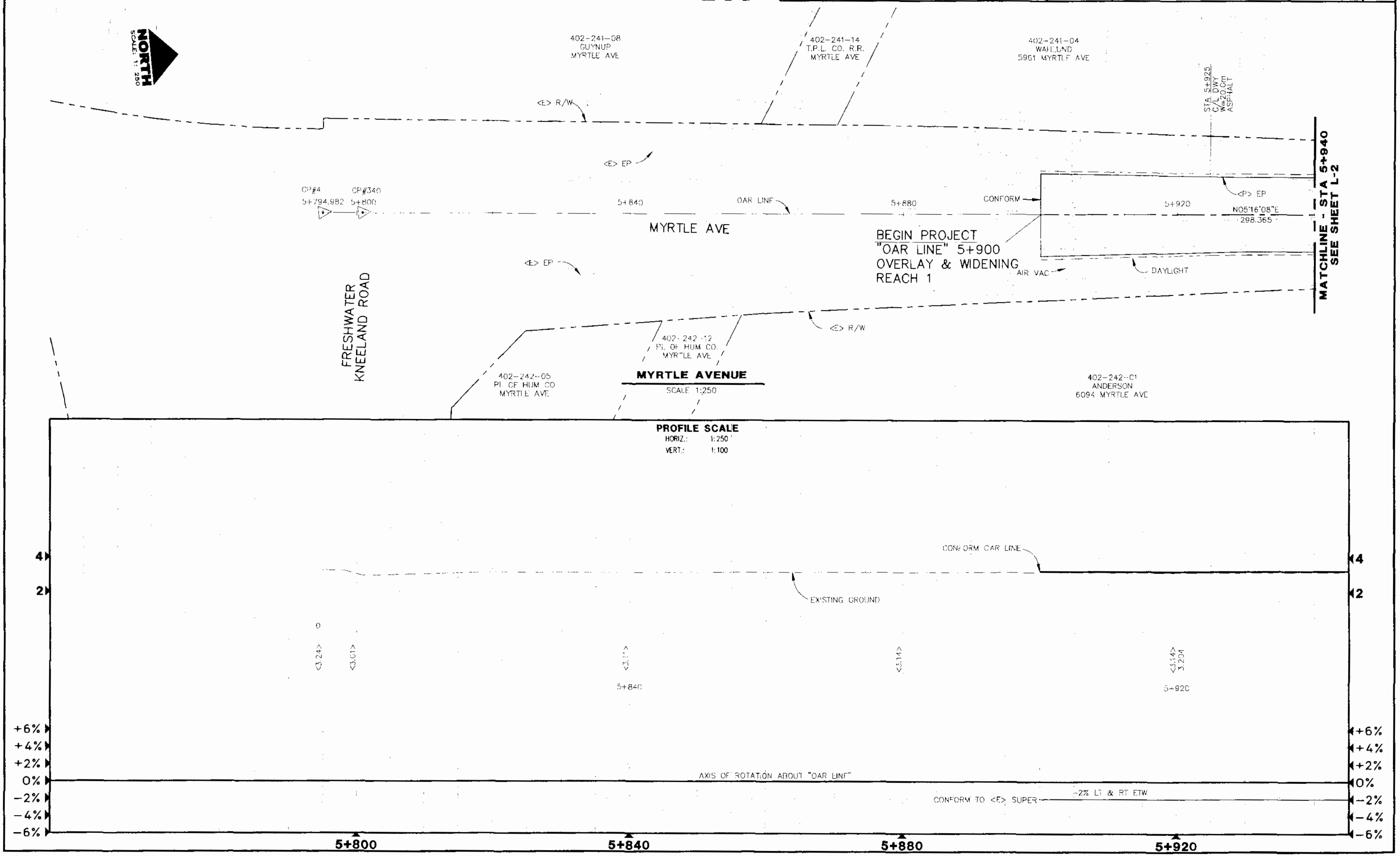
CITY OF EUREKA GATE VALVE INSTALLATION DETAIL

N.T.S.

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-2796341	DRAWN BY: JAR	PLAN AND PROFILE STA 5+900 TO STA 5+940
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB	
	DRAWING FILE NAME: C:\PROJECTS\980700\DWG\CDSN-L01.DWG		APPROVED BY: CCW	
	PLOT DATE: 03/10/2008			

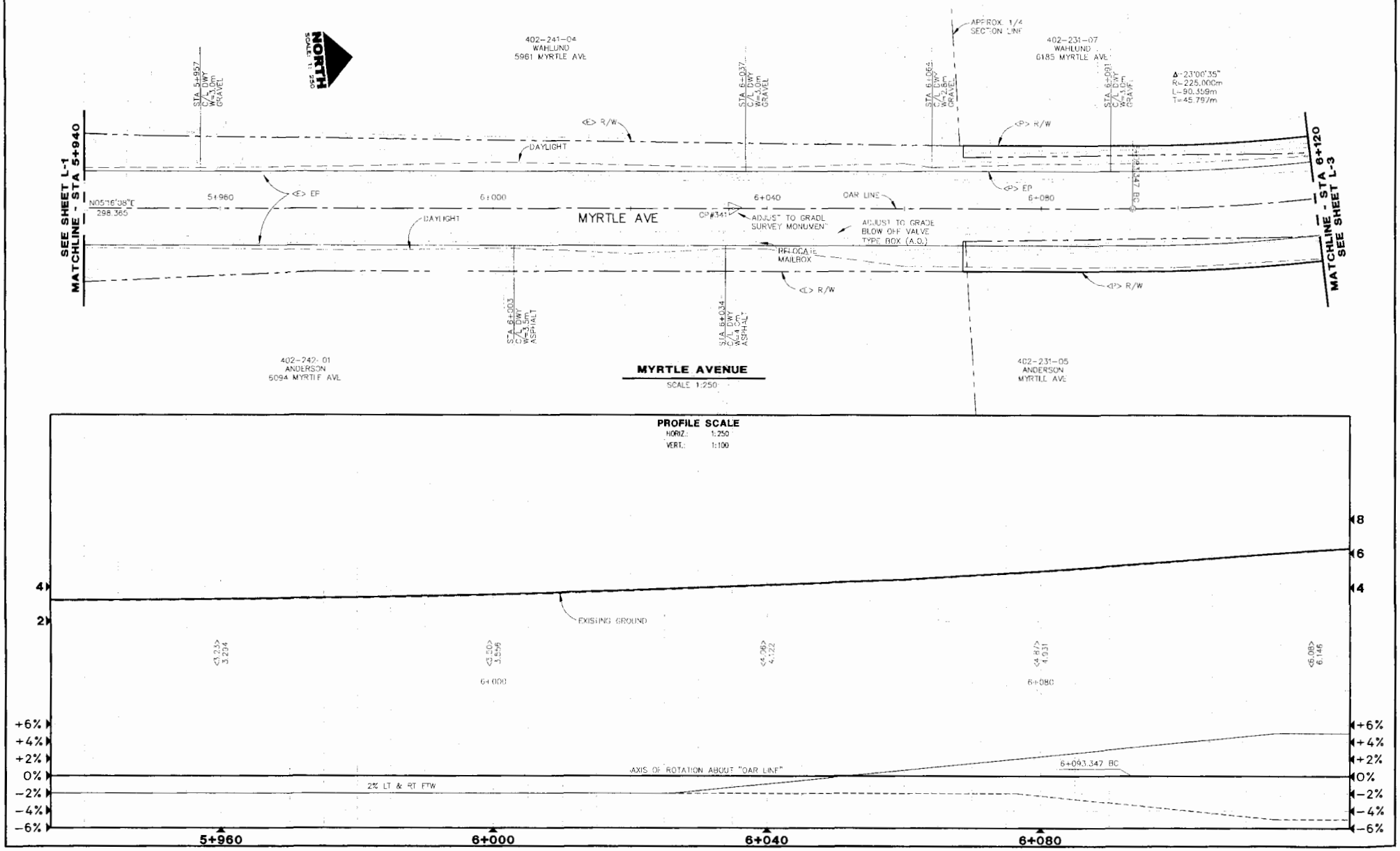
L-1

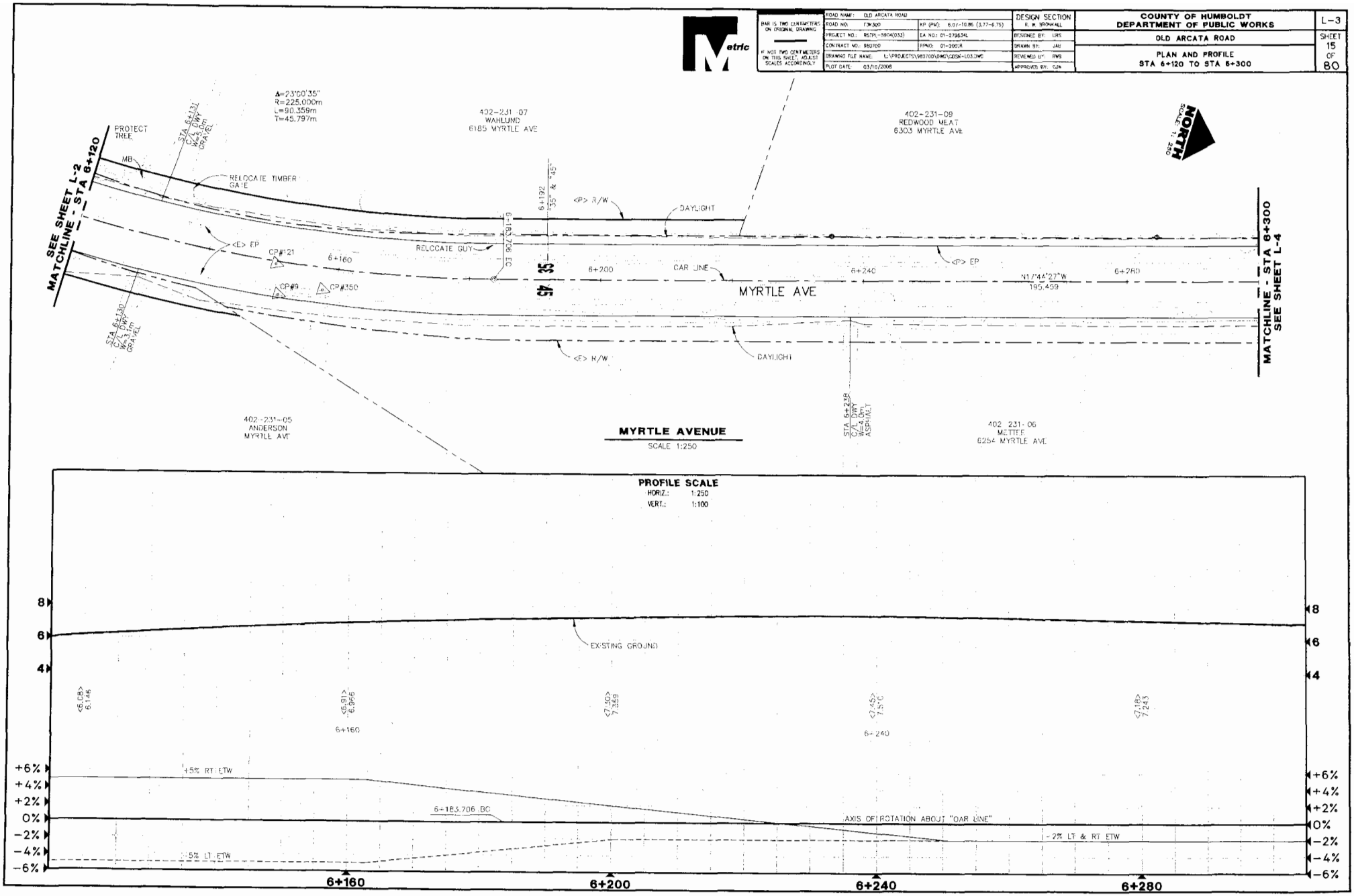
SHEET 13 OF 80



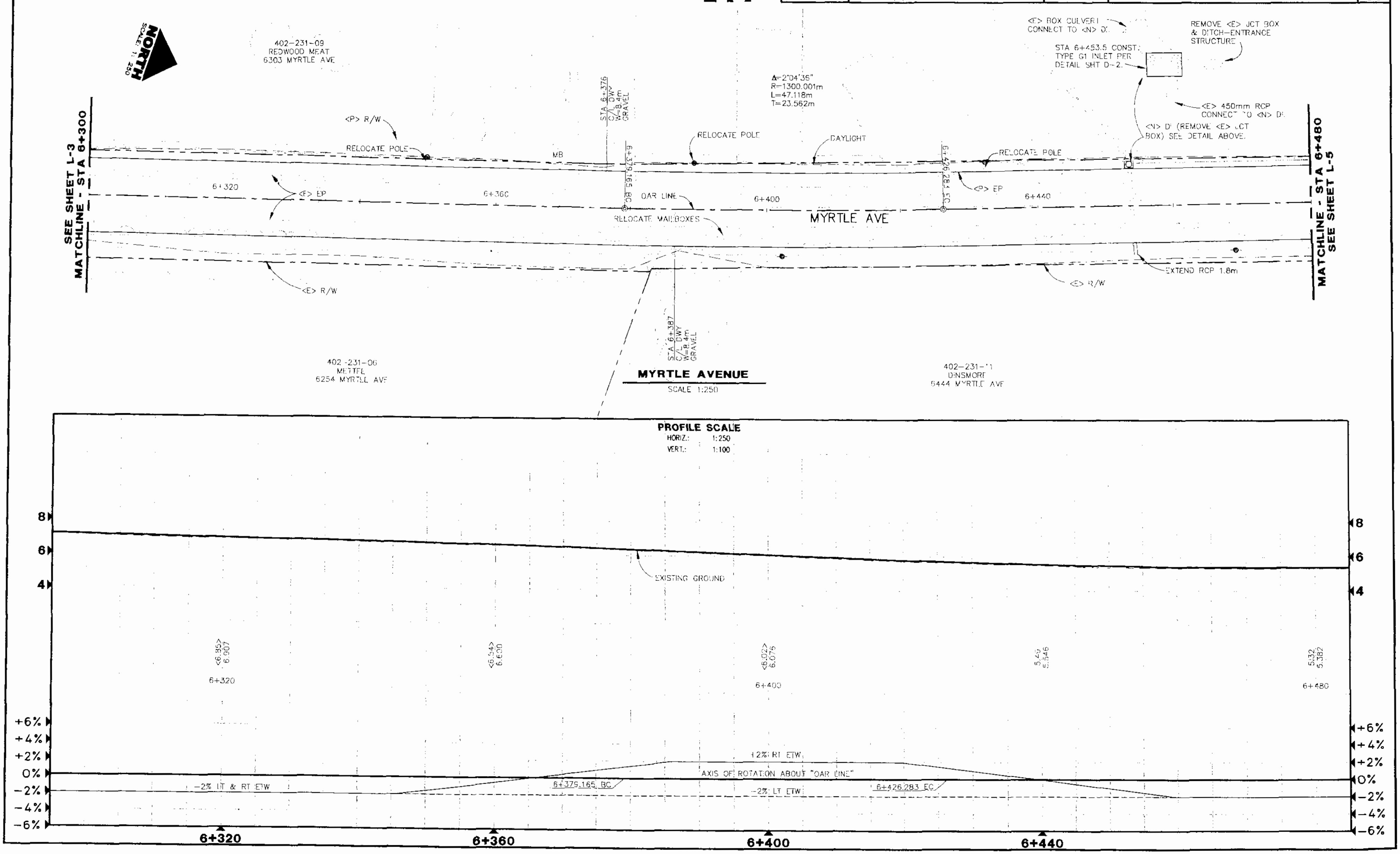
NORTH
SCALE: 1: 250
402-241-08
GUYNUP
MYRTLE AVE
402-241-14
T.P.L. CO. R.R.
MYRTLE AVE
402-241-04
WAHLUND
5961 MYRTLE AVE
STA 5+925
C/L DWY
W=20.0m
ASPHALT
<E> R/W
<E> EP
CP#4
5+794.982
CP#340
5+800
5+840
OAR LINE
5+880
CONFORM
5+920
<P> EP
N05°16'08"E
298.365
MYRTLE AVE
BEGIN PROJECT
"OAR LINE" 5+900
OVERLAY & WIDENING
REACH 1
AIR VAC
DAYLIGHT
MATCHLINE - STA 5+940
SEE SHEET L-2
FRESHWATER
KNEELAND ROAD
402-242-12
PL OF HUM CO.
MYRTLE AVE
402-242-05
PL OF HUM CO
MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
402-242-01
ANDERSON
6094 MYRTLE AVE
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
CONFORM OAR LINE
EXISTING GROUND
<3.24>
<3.01>
<3.11>
<3.14>
<3.14>
3.204
AXIS OF ROTATION ABOUT "OAR LINE"
CONFORM TO <E> SUPER
-2% LT & RT ETW
+6%
+4%
+2%
0%
-2%
-4%
-6%
5+800
5+840
5+880
5+920

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BROKAW	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-2
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: 134300	KP (PM): 6.07- (0.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 14 OF 80
	PROJECT NO.: RSTPL-5924(033)	EA NO.: 01-279634	DRAWN BY: JAR		
	CONTRACT NO.: 980130	PPNO: 01-2001V	REVIEWED BY: RWB	PLAN AND PROFILE STA 5+940 TO STA 6+120	
	DRAWING FILE NAME: I:\PROJECTS\WH7001\DWG\CDSN-L02.DWG		APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				



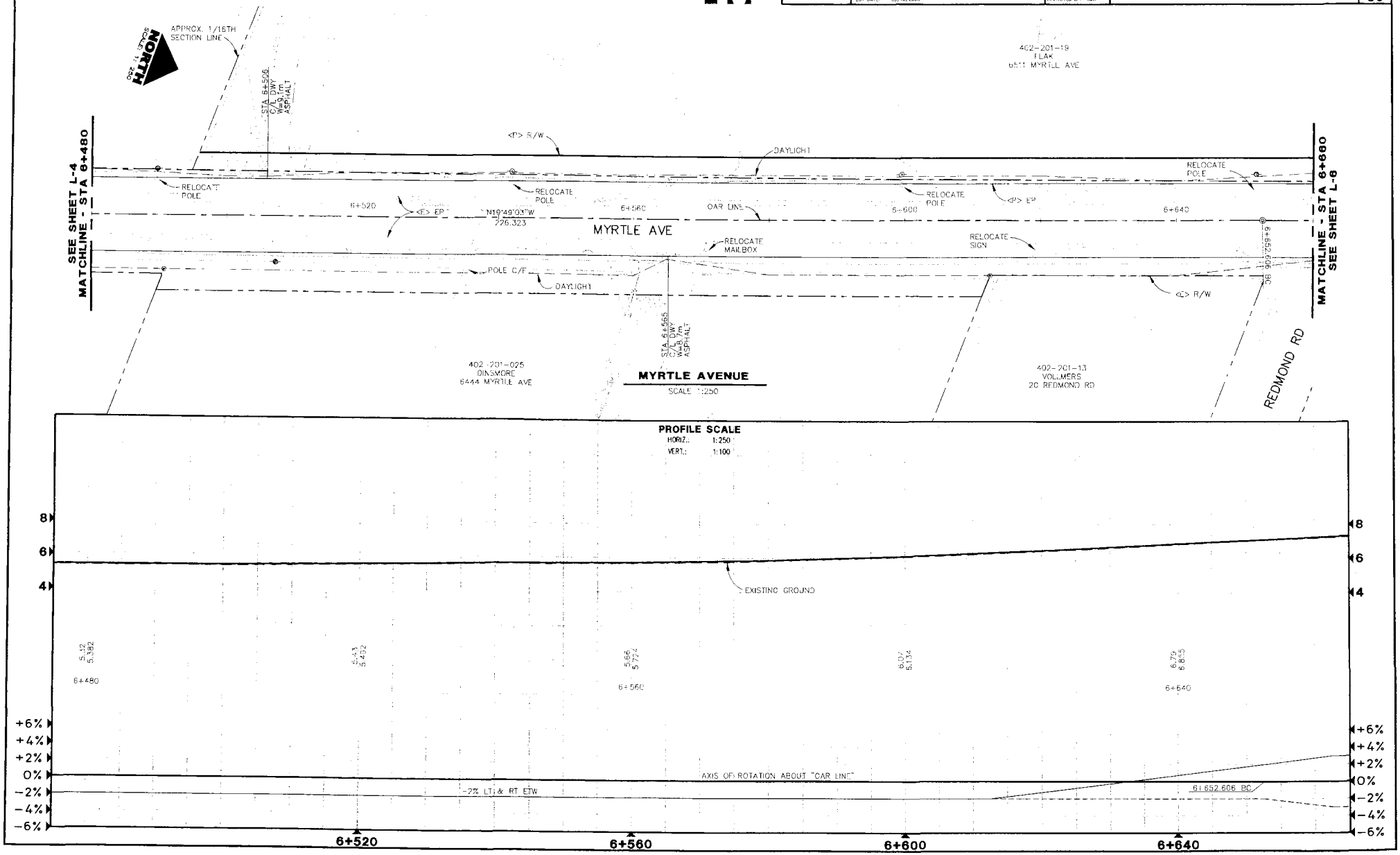

Metric
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 73K300
KP (PM): 6.07-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279634L
CONTRACT NO.: 980700
PPNO: 01-2001R
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-L03.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION: R. W. BRONKALL
DESIGNED BY: LRS
DRAWN BY: JAH
REVIEWED BY: RWB
APPROVED BY: CJA
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 6+120 TO STA 6+300
L-3
SHEET 15 OF 80
A=23°00'35"
R=225.000m
L=90.359m
T=45.797m
402-231-07
WAHLUND
6185 MYRTLE AVE
402-231-09
REDWOOD MEAT
6303 MYRTLE AVE
NORTH
SCALE 1" = 30'
SEE SHEET L-2
MATCHLINE - STA 6+120
PROTECT TREE
MB
STA 6+132
O/L DWY
W=5.0m
GRAVEL
RELOCATE TIMBER GATE
<E> EP
CP#121
CP#9
CP#350
6+160
RELOCATE GUY
6+183.706 EC
6+192
35° & 45°
<P> R/W
DAYLIGHT
6+200
CAR LINE
6+240
<P> EP
N17°44'27"W
195.459
6+280
MYRTLE AVE
MATCHLINE - STA 6+300
SEE SHEET L-4
STA 6+130
O/L DWY
W=5.0m
GRAVEL
<E> R/W
DAYLIGHT
STA 6+238
O/L DWY
W=6.0m
ASPHALT
402-231-05
ANDERSON
MYRTLE AVE
402-231-06
METTEE
6254 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
8
6
4
EXISTING GROUND
<6.08>
6.146
<6.91>
6.966
<7.30>
7.359
<7.45>
7.510
<7.18>
7.243
6+160
6+240
+6%
+4%
+2%
0%
-2%
-4%
-6%
-5% RT ETW
6+183.706 BC
AXIS OF ROTATION ABOUT "CAR LINE"
-2% LT & RT ETW
-5% LT ETW
6+160
6+200
6+240
6+280

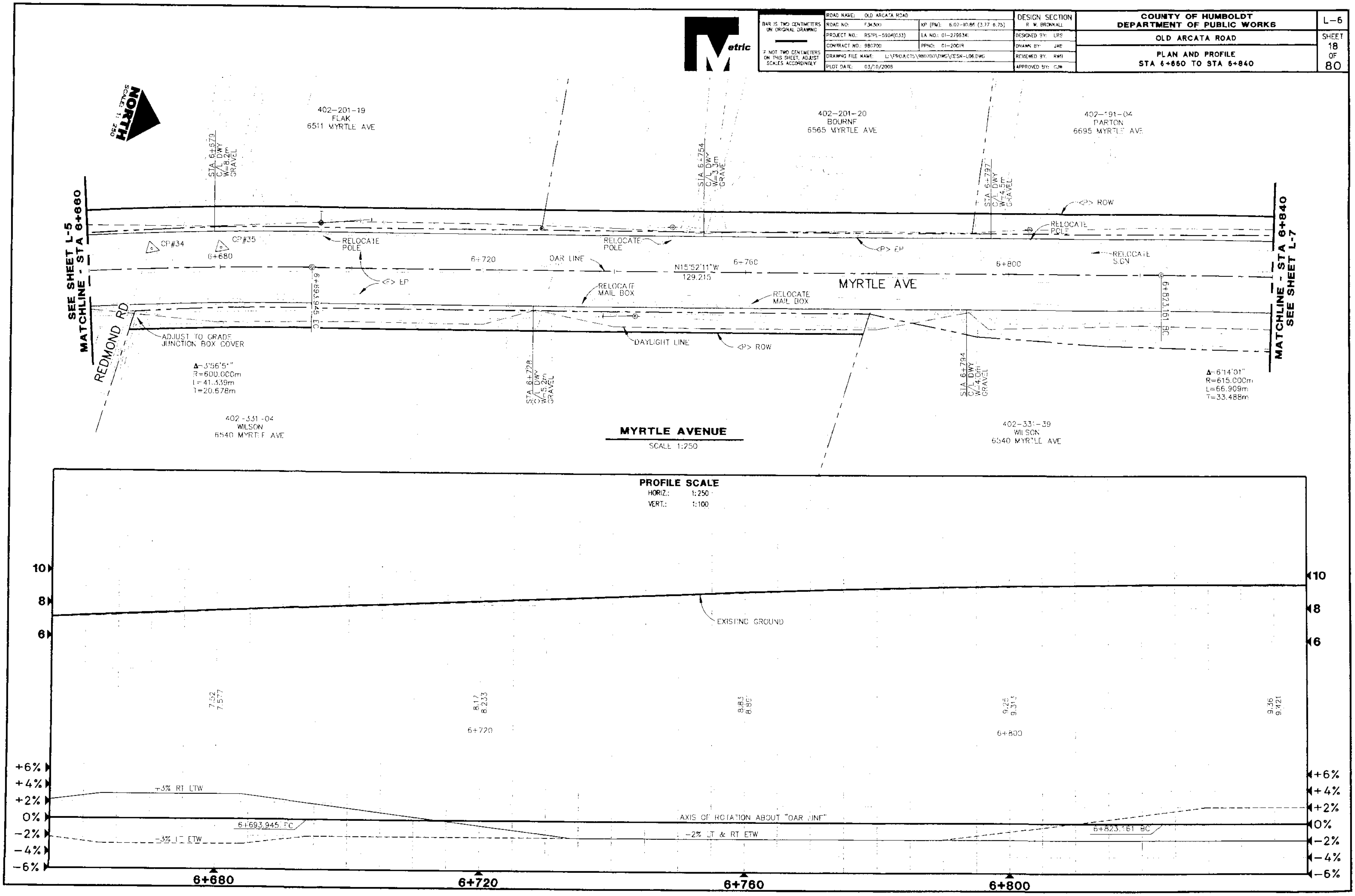
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-4
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 16 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634L	DRAWN BY: JAB	PLAN AND PROFILE STA 6+300 TO STA 6+480	
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-L04.DWG				
	PLOT DATE: 03/10/2008		APPROVED BY: CJW		

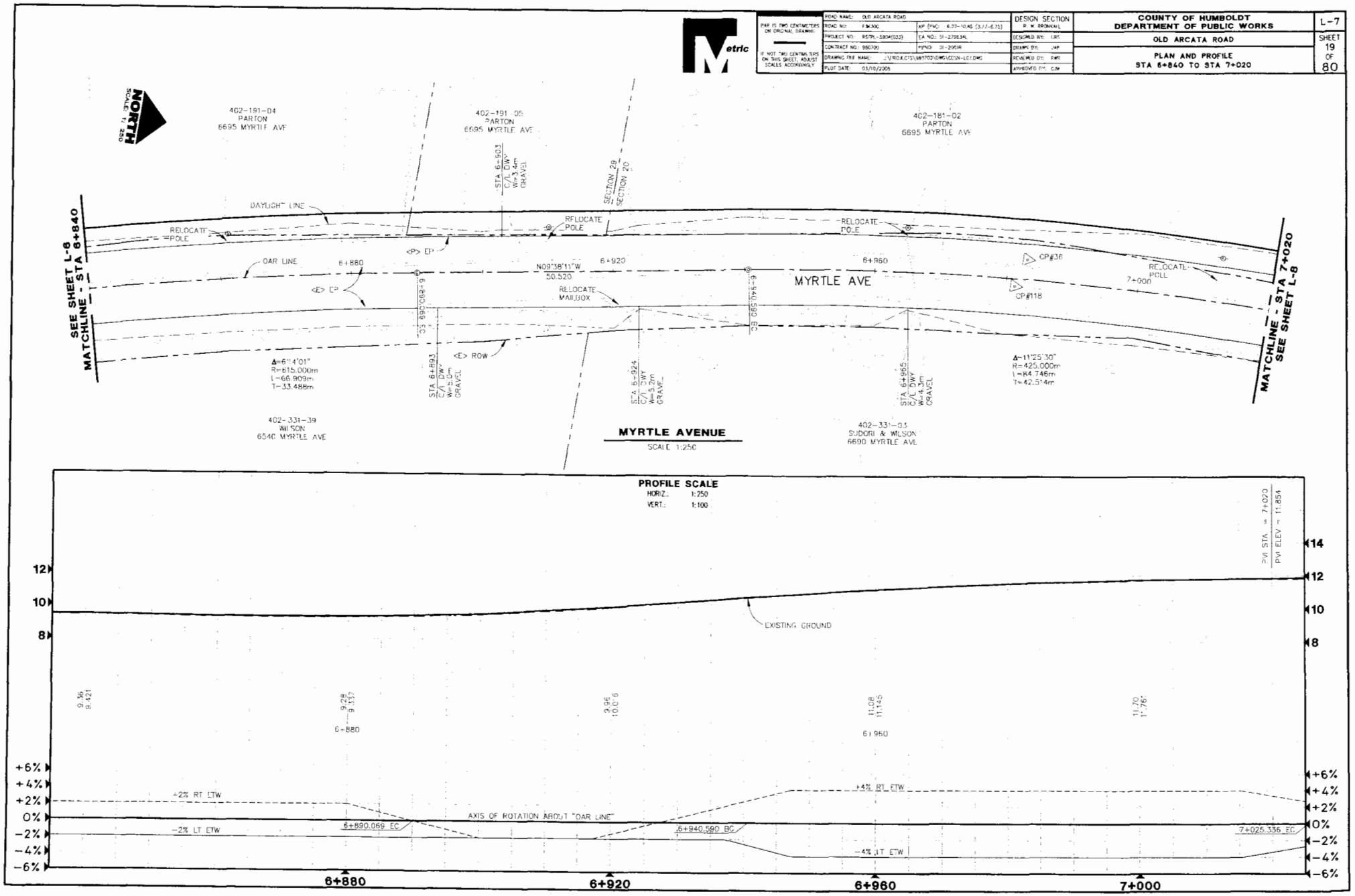


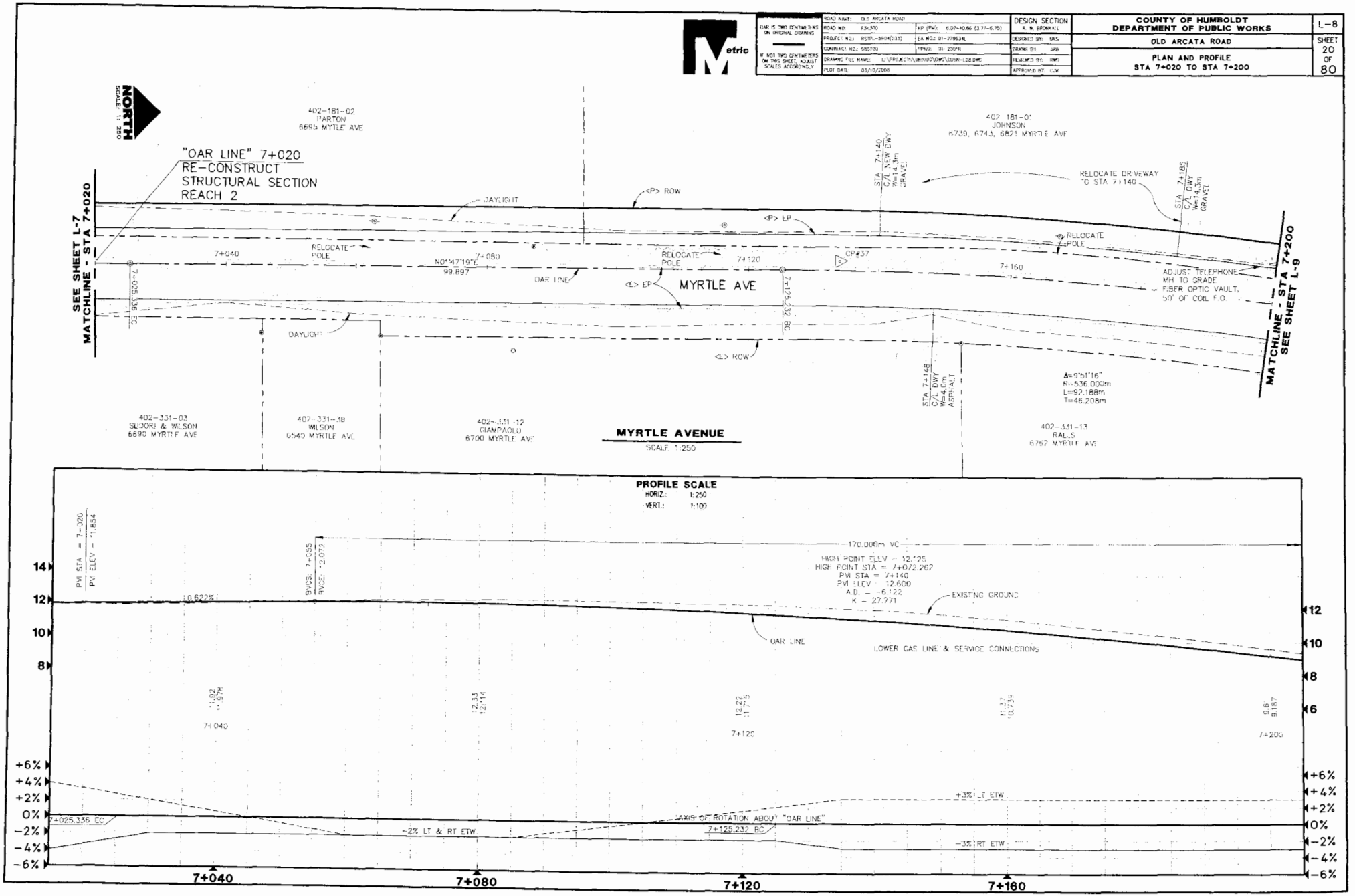
NORTH
SCALE: 1: 250
402-231-09
REDWOOD MEAT
6303 MYRTLE AVE
SEE SHEET L-3
MATCHLINE - STA 6+300
MATCHLINE - STA 6+480
SEE SHEET L-5
<P> R/W
RELOCATE POLE
MB
STA 6+376
C/L DWY
W=8.4m
GRAVEL
Δ=2°04'35"
R=1300.001m
L=47.118m
T=23.562m
RELOCATE POLE
DAYLIGHT
6+379.165 BC
6+426.283 EC
RELOCATE POLE
<E> BOX CULVERT
CONNECT TO <N> DI
STA 6+453.5 CONST.
TYPE G1 INLET PER
DETAIL SHT D-2.
REMOVE <E> JCT BOX
& DITCH-ENTRANCE
STRUCTURE
<E> 450mm RCP
CONNECT TO <N> DI
<N> DI (REMOVE <E> JCT
BOX) SEE DETAIL ABOVE.
6+320
<E> EP
6+360
OAR LINE
6+400
<P> EP
6+440
MYRTLE AVE
RELOCATE MAILBOXES
EXTEND RCP 1.8m
<E> R/W
<E> R/W
STA 6+387
C/L DWY
W=8.4m
GRAVEL
402-231-06
METTEL
6254 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
402-231-11
DINSMORE
6444 MYRTLE AVE
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
8
6
4
EXISTING GROUND
<6.85>
6.907
6+320
<6.54>
6.630
<6.02>
6.075
6+400
5.49
5.546
5.32
5.382
6+480
+6%
+4%
+2%
0%
-2%
-4%
-6%
+2% RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
-2% LT & RT ETW
6+379.165 BC
-2% LT ETW
6+426.283 EC
6+320
6+360
6+400
6+440

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKAL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-5
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: 3R300	KP (PM): 0.07-10.86 (3.77-5.75)		OLD ARCATA ROAD	SHEET 17 OF 80
	PROJECT NO.: 05PI-5904(031)	EA NO.: 01-279634	DESIGNED BY: LRS		
	CONTRACT NO.: 980700	PPNO.: 01-2001R	DRAWN BY: JAH	PLAN AND PROFILE STA 6+480 TO STA 6+660	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\DESN-L05.DWG		REVIEWED BY: RWB		
	PLOT DATE: 03/10/2008		APPROVED BY: CJM		




COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 6+660 TO STA 6+840
L-6
SHEET 18 OF 80
DESIGN SECTION
R. W. BRONKALL
DESIGNED BY: LRS
DRAWN BY: JAE
REVIEWED BY: RWB
APPROVED BY: GJM
ROAD NAME: OLD ARCATA ROAD
ROAD NO: F3A300
PROJECT NO.: RSTPL-5904(033)
CONTRACT NO.: 980700
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\DESN-L06.DWG
PLOT DATE: 03/10/2008
KP (PM): 6.07-10.86 (3.77-6.75)
EA NO: 01-279534
PPNO: 01-2001R
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
Metric
NORTH
SCALE: 1: 250
402-201-19
FLAK
6511 MYRTLE AVE
402-201-20
BOURNE
6565 MYRTLE AVE
402-191-04
PARTON
6695 MYRTLE AVE
402-331-04
WILSON
6540 MYRTLE AVE
402-331-39
WILSON
6540 MYRTLE AVE
STA 6+679
C/L DWY
W=8.2m
GRAVEL
STA 6+754
C/L DWY
W=3.3m
GRAVEL
STA 6+797
C/L DWY
W=4.5m
GRAVEL
STA 6+728
C/L DWY
W=5.2m
GRAVEL
STA 6+794
C/L DWY
W=4.0m
GRAVEL
SEE SHEET L-5
MATCHLINE - STA 6+660
SEE SHEET L-7
MATCHLINE - STA 6+840
CP#34
CP#35
RELOCATE POLE
RELOCATE SIGN
RELOCATE MAIL BOX
<P> ROW
<P> EP
OAR LINE
N15°52'11"W
129.215
MYRTLE AVE
REDMOND RD
ADJUST TO GRADE
JUNCTION BOX COVER
DAYLIGHT LINE
6+693.945 EC
6+823.161 BC
Δ=3°56'51"
R=600.000m
L=41.339m
T=20.678m
Δ=6°14'01"
R=615.000m
L=66.909m
T=33.488m
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
EXISTING GROUND
7.52
7.577
8.17
8.233
8.83
8.89
9.25
9.313
9.36
9.421
+3% RT ETW
-3% LT ETW
-2% LT & RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
10
8
6
+6%
+4%
+2%
0%
-2%
-4%
-6%
6+680
6+720
6+760
6+800


Metric
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: F.M.500
PROJECT NO: RSTPL-5904(033)
CONTRACT NO: 66700
DRAWING FILE NAME: J:\ROJECTS\66700\DWG\CDSN-LG7.DWG
PLOT DATE: 03/10/2008
KP (PM): 6.07-10.46 (3.77-6.75)
EA NO.: 01-279834L
FUND: 01-2901R
DESIGN SECTION: R. W. BRONKALL
DESIGNED BY: LRS
DRAWN BY: JAP
REVIEWED BY: RWB
APPROVED BY: CJM
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 6+840 TO STA 7+020
L-7
SHEET 19 OF 80
NORTH
SCALE 1:250
402-191-04
PARTON
6695 MYRTLE AVE
402-191-05
PARTON
6695 MYRTLE AVE
402-181-02
PARTON
6695 MYRTLE AVE
SEE SHEET L-6
MATCHLINE - STA 6+840
MATCHLINE - STA 7+020
SEE SHEET L-8
DAYLIGHT LINE
RELOCATE POLE
OAR LINE
<P> EP
<E> EP
<E> ROW
6+880
6+920
6+960
7+000
N09°38'11"W
50.520
MYRTLE AVE
RELOCATE MAILBOX
RELOCATE POLL
CP#36
CP#118
STA 6+603
C/L DWY
W=3.4m
GRAVEL
STA 6+893
C/L DWY
W=5.0m
GRAVEL
STA 6+924
C/L DWY
W=5.2m
GRAVEL
STA 6+965
C/L DWY
W=4.3m
GRAVEL
Δ=6°14'01"
R=615.000m
L=66.909m
T=33.488m
Δ=11°25'30"
R=425.000m
L=84.746m
T=42.514m
402-331-39
WILSON
6540 MYRTLE AVE
402-331-03
SUDORI & WILSON
6690 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
PVI STA = 7+020
PVI ELEV = 11.854
EXISTING GROUND
9.36
9.421
9.28
9.157
9.96
10.076
11.08
11.145
11.70
11.76
12
10
8
14
12
10
8
+6%
+4%
+2%
0%
-2%
-4%
-6%
+2% RT. ETW
-2% LT. ETW
+4% RT. ETW
-4% LT. ETW
AXIS OF ROTATION ABOUT "OAR LINE"
6+890.069 EC
6+940.590 BC
7+025.336 EC
6+880
6+920
6+960
7+000

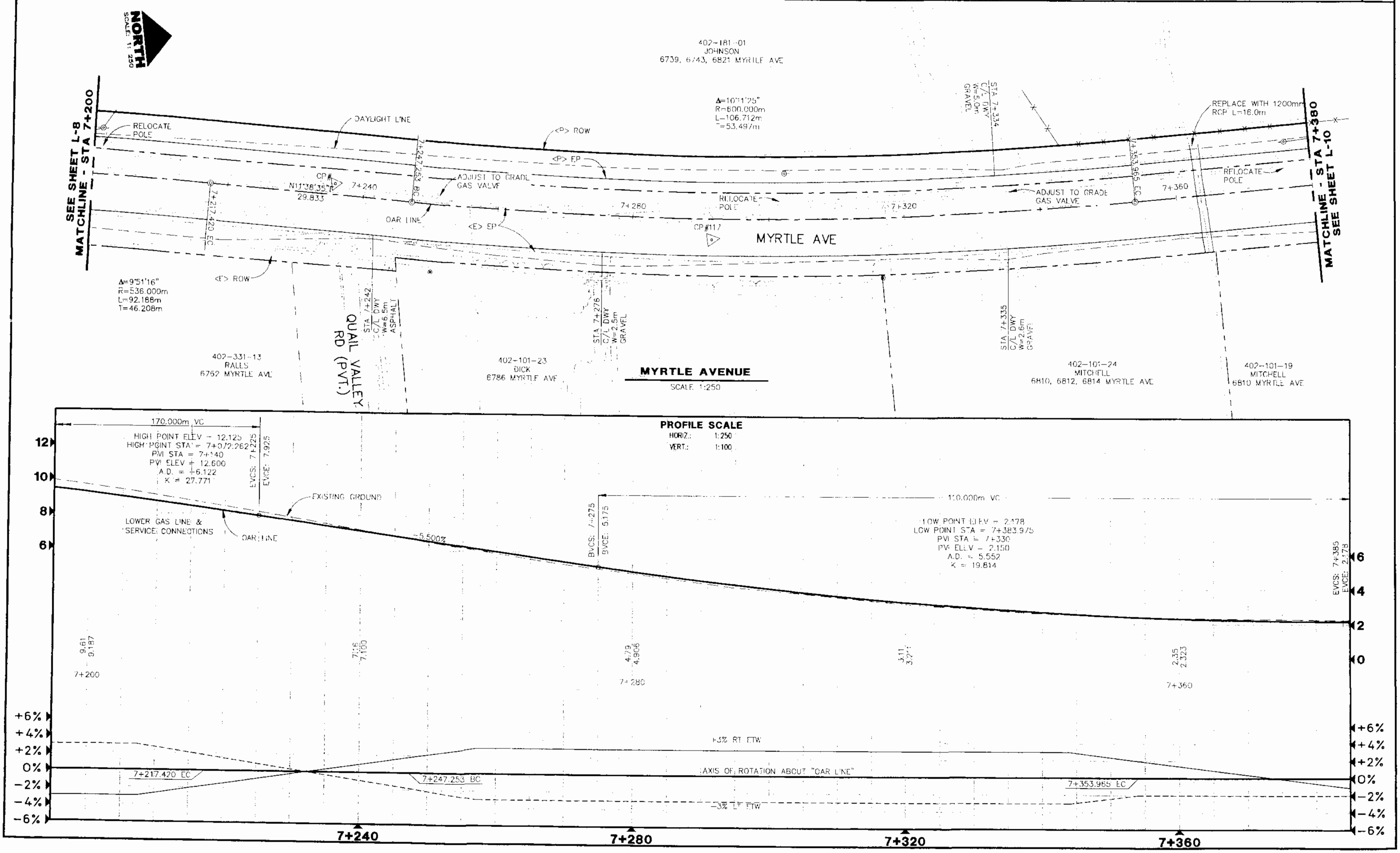

Metric
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO:
PROJECT NO.: BSTL-5904(033)
CONTRACT NO.:
DRAWING FILE NAME:
PLOT DATE: 03/10/2006
DESIGN SECTION
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 7+020 TO STA 7+200
L-8
SHEET 20 OF 80
NORTH
SCALE: 1" = 20'
402-181-02
PARTON
6695 MYRTLE AVE
402-181-01
JOHNSON
6739, 6743, 6821 MYRTLE AVE
"OAR LINE" 7+020
RE-CONSTRUCT
STRUCTURAL SECTION
REACH 2
SEE SHEET L-7
MATCHLINE - STA 7+020
MATCHLINE - STA 7+200
SEE SHEET L-9
DAYLIGHT
<P> ROW
<P> EP
RELOCATE POLE
RELOCATE DRIVEWAY TO STA 7+140
STA 7+140
C/L NEW DWY
W=14.3m
GRAVEL
STA 7+185
C/L DWY
W=14.3m
GRAVEL
ADJUST TELEPHONE MH TO GRADE
FIBER OPTIC VAULT, 50' OF COIL F.O.
7+040
7+080
7+120
7+160
N01°47'19"E
99.897
OAR LINE
<E> EP
MYRTLE AVE
7+025.336 EC
7+125.232 BC
<E> ROW
STA 7+148
C/L DWY
W=6.4m
ASPHALT
Δ=9°51'16"
R=536.000m
L=92.188m
T=46.208m
402-331-03
SUDORI & WILSON
6690 MYRTLE AVE
402-331-38
WILSON
6540 MYRTLE AVE
402-331-12
GIAMPAOLO
6700 MYRTLE AVE
402-331-13
RALLS
6762 MYRTLE AVE
MYRTLE AVENUE
SCALE: 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
PVI STA = 7+020
PVI ELEV = 11.854
BVCS: 7+055
BVCE: 12.072
170.000m VC
HIGH POINT ELEV = 12.125
HIGH POINT STA = 7+072.262
PVI STA = 7+140
PVI ELEV = 12.600
A.D. = -6.122
K = 27.771
0.622%
EXISTING GROUND
OAR LINE
LOWER GAS LINE & SERVICE CONNECTIONS
11.92
11.97
7+040
12.33
12.14
12.22
11.75
7+120
11.27
10.739
9.6
9.187
7+200
14
12
10
8
6
+6%
+4%
+2%
0%
-2%
-4%
-6%
7+025.336 EC
-2% LT & RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
7+125.232 BC
+3% LT ETW
-3% RT ETW
7+040
7+080
7+120
7+160

ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ROAD NO: F3K300	KP (PM): 6.07–10.86 (3.77–6.75)		L–9
PROJECT NO.: RSTPL–5904(033)	EA NO.: 01–279634L	DESIGNED BY: URS	OLD ARCATA ROAD
CONTRACT NO.: 980700	PPNO: 01–2001R	DRAWN BY: JAB	SHEET 21 OF 80
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN L09.DWG		REVIEWED BY: RWB	PLAN AND PROFILE STA 7+200 TO STA 7+380
PLOT DATE: 03/10/2008		APPROVED BY: CJW	

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

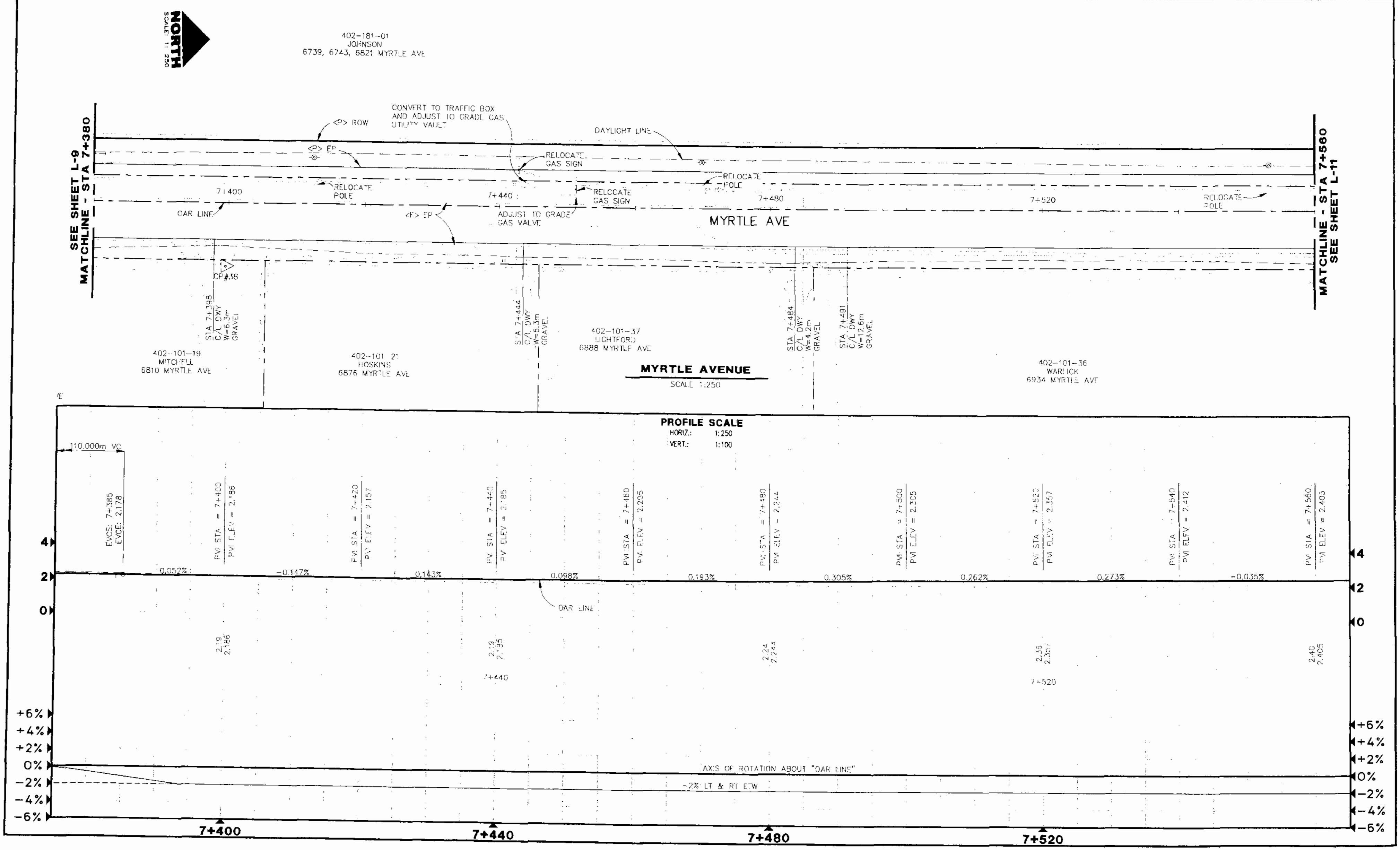
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

Metric

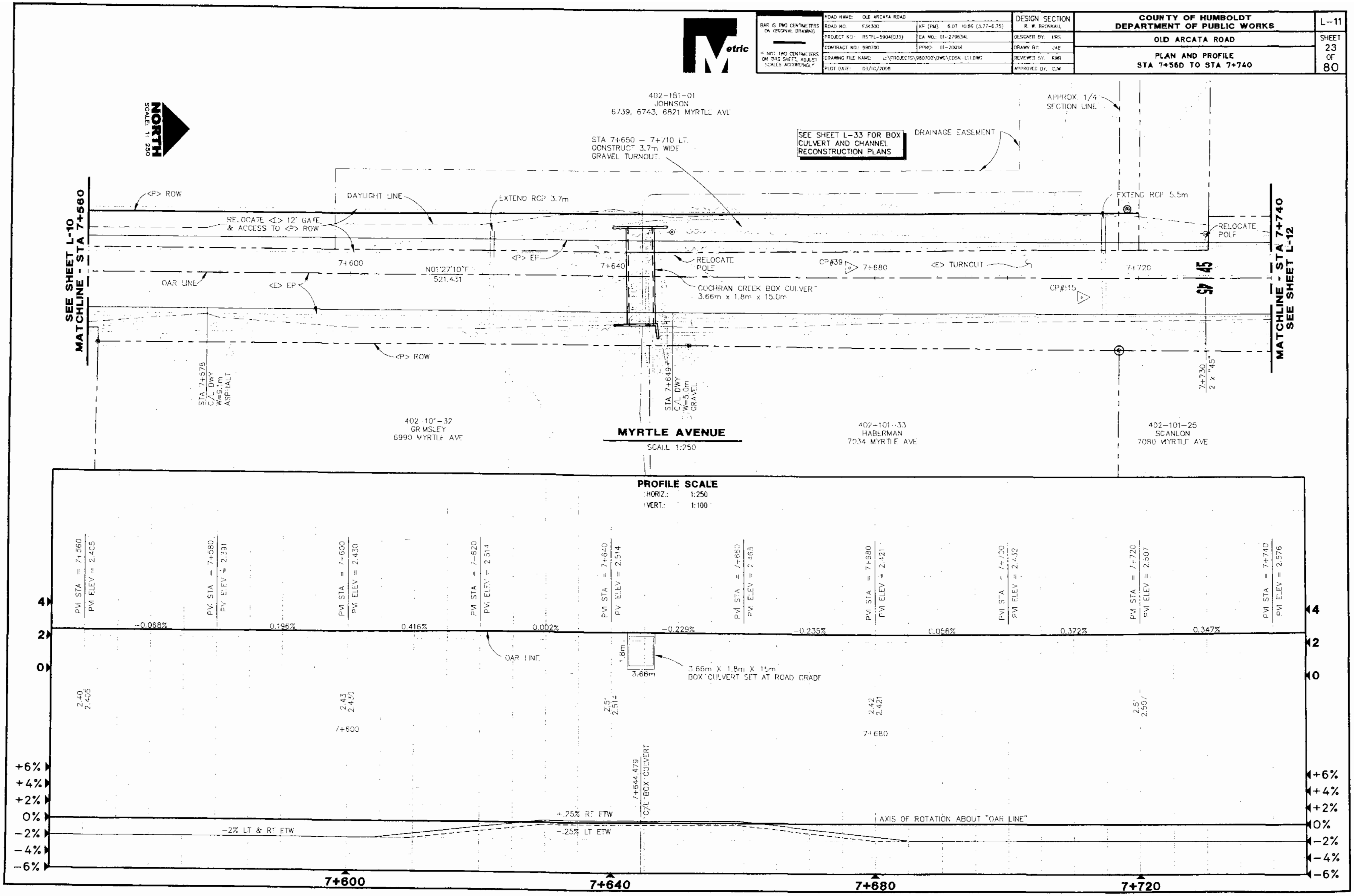


NORTH
SCALE: 1: 250
SEE SHEET L-8
MATCHLINE - STA 7+200
MATCHLINE - STA 7+380
SEE SHEET L-10
402-181-01
JOHNSON
6739, 6743, 6821 MYRTLE AVE
Δ=10°11'25"
R=600.000m
L=106.712m
T=53.497m
Δ=9°51'16"
R=536.000m
L=92.188m
T=46.208m
RELOCATE POLE
DAYLIGHT LINE
<P> ROW
<P> EP
<E> EP
<E> ROW
OAR LINE
ADJUST TO GRADE GAS VALVE
CP#117
MYRTLE AVE
N11°38'35"E
29.833
7+217.420 EC
7+247.253 BC
7+353.965 EC
REPLACE WITH 1200mm RCP L=16.0m
STA 7+334
C/L DWY
W=5.0m
GRAVEL
STA 7+242
C/L DWY
W=6.5m
ASPHALT
STA 7+276
C/L DWY
W=2.5m
GRAVEL
STA 7+335
C/L DWY
W=2.6m
GRAVEL
QUAIL VALLEY RD (PVT.)
402-331-13
RALLS
6752 MYRTLE AVE
402-101-23
DICK
6786 MYRTLE AVE
402-101-24
MITCHELL
6810, 6812, 6814 MYRTLE AVE
402-101-19
MITCHELL
6810 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
170.000m VC
HIGH POINT ELEV = 12.125
HIGH POINT STA = 7+072.262
PVI STA = 7+140
PVI ELEV = 12.600
A.D. = +6.122
K = 27.771
EVCS: 7+225
EVCE: 7.925
EXISTING GROUND
LOWER GAS LINE & SERVICE CONNECTIONS
OAR LINE
-5.500%
BVCS: 7+275
BVCE: 5.175
110.000m VC
LOW POINT ELEV = 2.178
LOW POINT STA = 7+383.975
PVI STA = 7+330
PVI ELEV = 2.150
A.D. = 5.552
K = 19.814
EVCS: 7+385
EVCE: 2.178
+3% RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
-3% LT ETW
7+240
7+280
7+320
7+360

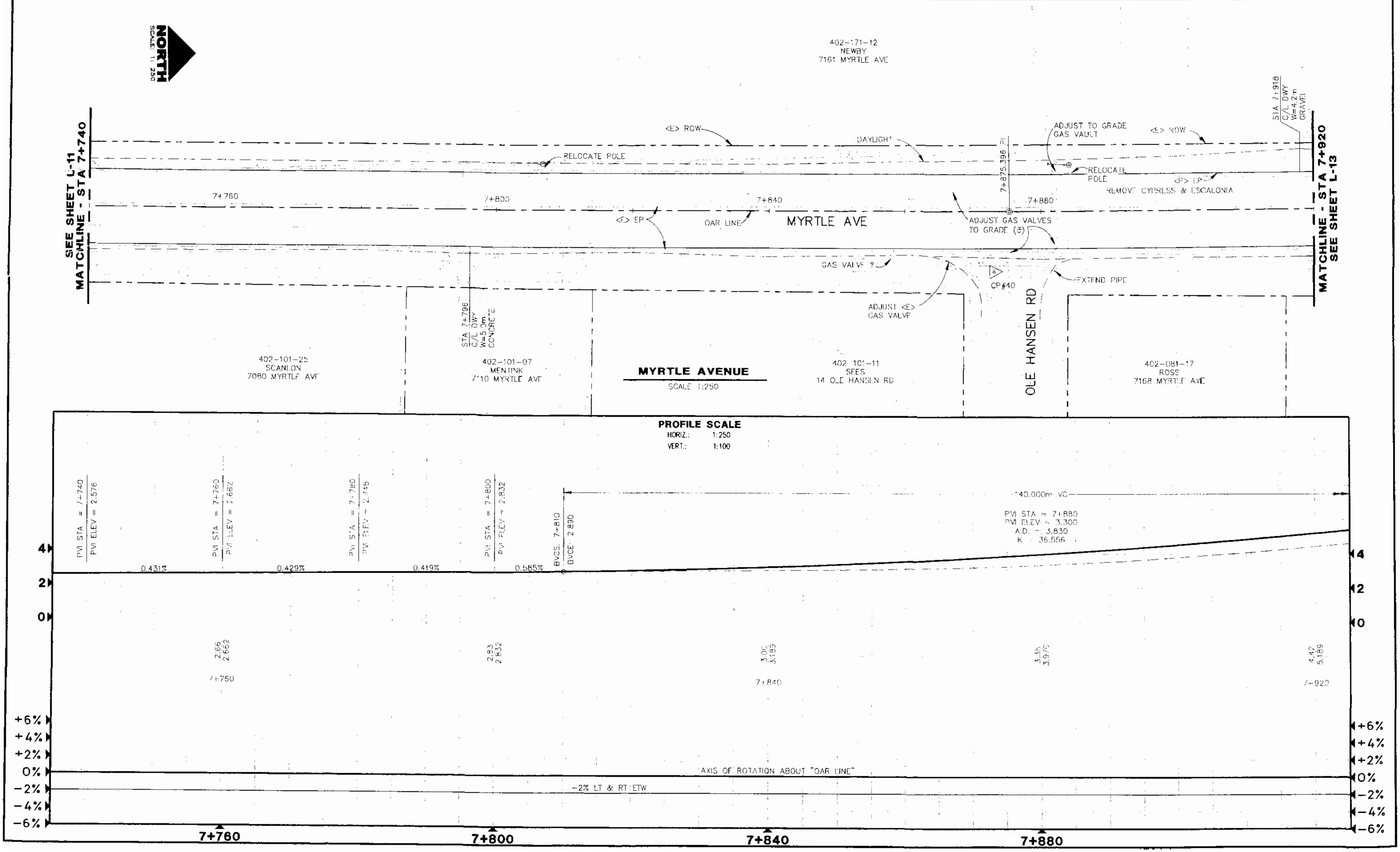
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD ROAD NO: F3K300 — KP (PM): 6.07–10.86 (3.77–6.75) PROJECT NO.: RSTPL-5904(033) — EA NO.: 01-279634 CONTRACT NO.: 980700 — PPNO: 01-2001R DRAWING FILE NAME: ..\PROJECTS\980700\DWG\COSN-L10.DWG PLOT DATE: 03/10/2008	DESIGN SECTION R. W. BRONKALL DESIGNED BY: URS DRAWN BY: JAB REVIEWED BY: RWB APPROVED BY: CJW	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS OLD ARCATA ROAD PLAN AND PROFILE STA 7+380 TO STA 7+560	L-10 SHEET 22 OF 80



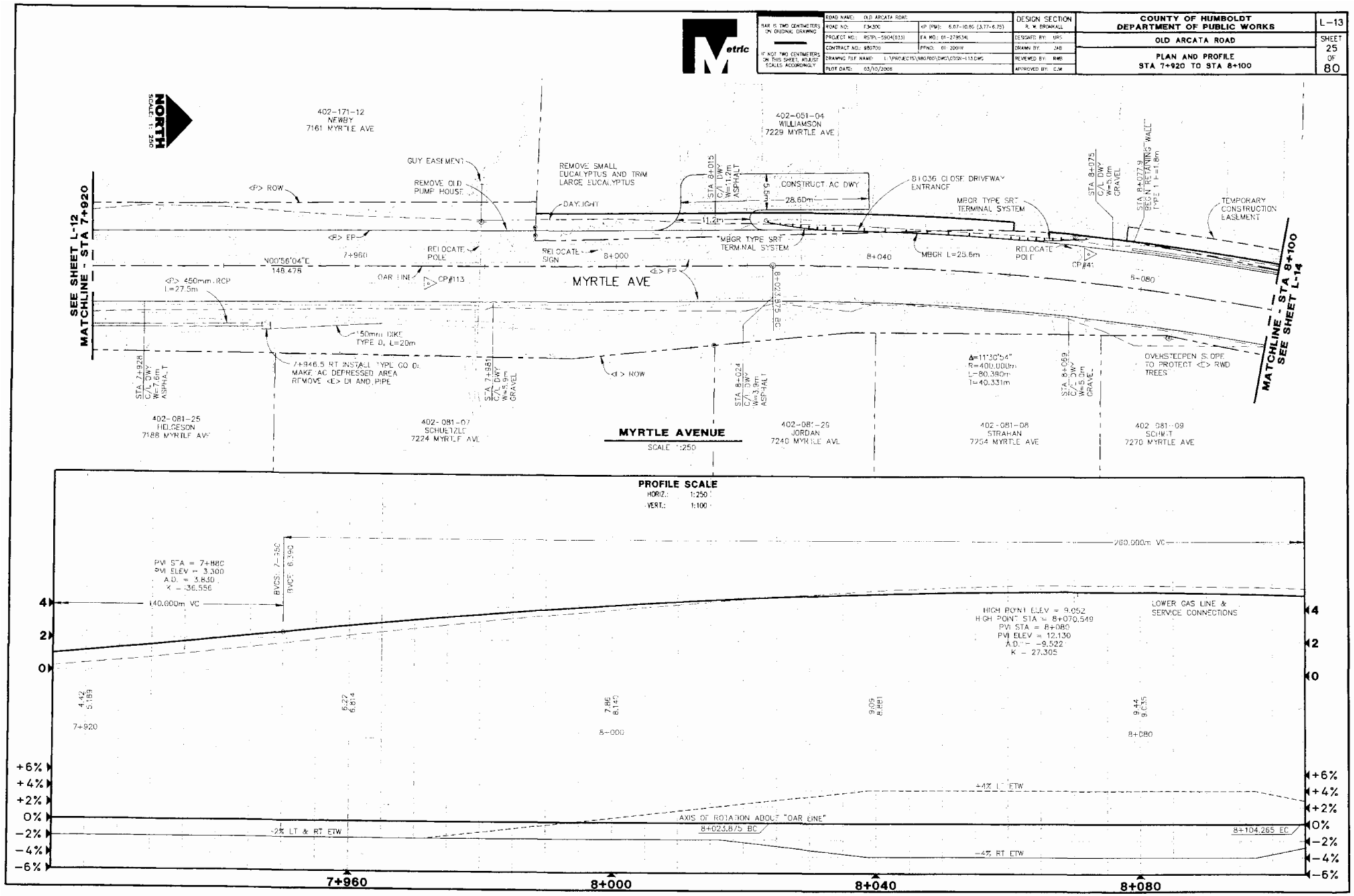
NORTH
SCALE: 1: 250
402-181-01
JOHNSON
6739, 6743, 6821 MYRTLE AVE
SEE SHEET L-9
MATCHLINE - STA 7+380
SEE SHEET L-11
MATCHLINE - STA 7+560
CONVERT TO TRAFFIC BOX AND ADJUST TO GRADE GAS UTILITY VAULT
DAYLIGHT LINE
RELOCATE GAS SIGN
RELOCATE POLE
ADJUST TO GRADE GAS VALVE
OAR LINE
MYRTLE AVE
STA 7+398 C/L DWY W=6.3m GRAVEL
STA 7+444 C/L DWY W=5.3m GRAVEL
STA 7+484 C/L DWY W=4.2m GRAVEL
STA 7+491 C/L DWY W=12.6m GRAVEL
402-101-19
MITCHELL
6810 MYRTLE AVE
402-101-21
HOSKINS
6876 MYRTLE AVE
402-101-37
LIGHTFORD
6888 MYRTLE AVE
402-101-36
WARLICK
6934 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
110.000m VC
EVCS: 7+385
EVCE: 2.178
PVI STA = 7+400 PVI ELEV = 2.186
PVI STA = 7+420 PVI ELEV = 2.157
PVI STA = 7+440 PVI ELEV = 2.185
PVI STA = 7+460 PVI ELEV = 2.205
PVI STA = 7+480 PVI ELEV = 2.244
PVI STA = 7+500 PVI ELEV = 2.305
PVI STA = 7+520 PVI ELEV = 2.357
PVI STA = 7+540 PVI ELEV = 2.412
PVI STA = 7+560 PVI ELEV = 2.405
0.052%
-0.147%
0.143%
0.098%
0.193%
0.305%
0.262%
0.273%
-0.035%
AXIS OF ROTATION ABOUT "OAR LINE"
-2% LT & RT ETW
7+400
7+440
7+480
7+520


COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 7+560 TO STA 7+740
L-11
SHEET 23 OF 80
DESIGN SECTION
Metric
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
NORTH
SCALE: 1: 250
SEE SHEET L-10
MATCHLINE - STA 7+560
MATCHLINE - STA 7+740
SEE SHEET L-12
402-181-01
JOHNSON
6739, 6743, 6821 MYRTLE AVE
STA 7+650 – 7+710 LT.
CONSTRUCT 3.7m WIDE
GRAVEL TURNOUT
SEE SHEET L-33 FOR BOX CULVERT AND CHANNEL RECONSTRUCTION PLANS
DRAINAGE EASEMENT
APPROX. 1/4 SECTION LINE
DAYLIGHT LINE
EXTEND RCP 3.7m
EXTEND RCP 5.5m
RELOCATE POLE
RELOCATE <E> 12' GATE & ACCESS TO <P> ROW
<P> ROW
<P> EP
<E> EP
<E> TURNOUT
OAR LINE
N01°27'10"E
521.431
COCHRAN CREEK BOX CULVERT
3.66m x 1.8m x 15.0m
CP#39
CP#115
7+600
7+640
7+680
7+720
7+730
2 x "45"
STA 7+578
C/L DWY
W=9.1m
ASPHALT
STA 7+649
C/L DWY
W=5.0m
GRAVEL
402-101-32
GRIMSLEY
6990 MYRTLE AVE
402-101-33
HABERMAN
7034 MYRTLE AVE
402-101-25
SCANLON
7080 MYRTLE AVE
PVI STA = 7+560
PVI ELEV = 2.405
PVI STA = 7+580
PVI ELEV = 2.391
PVI STA = 7+600
PVI ELEV = 2.430
PVI STA = 7+620
PVI ELEV = 2.514
PVI STA = 7+640
PVI ELEV = 2.514
PVI STA = 7+660
PVI ELEV = 2.468
PVI STA = 7+680
PVI ELEV = 2.421
PVI STA = 7+700
PVI ELEV = 2.432
PVI STA = 7+720
PVI ELEV = 2.507
PVI STA = 7+740
PVI ELEV = 2.576
-0.068%
0.196%
0.416%
0.002%
-0.229%
-0.235%
0.056%
0.372%
0.347%
3.66m X 1.8m X 15m
BOX CULVERT SET AT ROAD GRADE
1.8m
3.66m
7+644.479
C/L BOX CULVERT
+.25% RT ETW
-.25% LT ETW
-2% LT & RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
+6%
+4%
+2%
0%
-2%
-4%
-6%

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD	DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-12
	ROAD NO: F3K300 — KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: SRS	OLD ARCATA ROAD	SHEET 24 OF 80
	PROJECT NO.: RSTPL-5904(033) — EA NO.: 01-279634L	DRAWN BY: JAD	PLAN AND PROFILE STA 7+740 TO STA 7+920	
	CONTRACT NO.: 980700 — PPNO. 01-2001R	REVIEWED BY: RWB		
	DRAWING FILE NAME: I:\PROJECTS\980700\DWG\CDSN-L12.DWG	APPROVED BY: CJW		
	PLOT DATE: 03/10/2006			



NORTH
SCALE: 1: 250
402-171-12
NEWBY
7161 MYRTLE AVE
SEE SHEET L-11
MATCHLINE - STA 7+740
MATCHLINE - STA 7+920
SEE SHEET L-13
STA 7+918
C/L DWY
W=4.2m
GRAVEL
<E> ROW
DAYLIGHT
RELOCATE POLE
ADJUST TO GRADE GAS VAULT
7+875.396 PI
<P> EP
REMOVE CYPRESS & ESCALONIA
7+760
7+800
7+840
7+880
<E> EP
OAR LINE
MYRTLE AVE
ADJUST GAS VALVES TO GRADE (3)
GAS VALVE ?
CP#40
EXTEND PIPE
ADJUST <E> GAS VALVE
STA 7+796
C/L DWY
W=5.0m
CONCRETE
402-101-25
SCANLON
7080 MYRTLE AVE
402-101-07
MENTINK
7110 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
402-101-11
SEES
14 OLE HANSEN RD
OLE HANSEN RD
402-081-17
ROSS
7168 MYRTLE AVE
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
PVI STA = 7+740
PVI ELEV = 2.576
PVI STA = 7+760
PVI ELEV = 2.662
PVI STA = 7+780
PVI ELEV = 2.749
PVI STA = 7+800
PVI ELEV = 2.832
BVCS 7+810
BVCE 2.890
140.000m VC
PVI STA = 7+880
PVI ELEV = 3.300
A.D. = 3.830
K = 36.556
0.431%
0.429%
0.419%
0.585%
2.66
2.662
7+750
2.83
2.832
3.06
3.189
7+840
3.35
3.970
4.42
5.189
7+920
AXIS OF ROTATION ABOUT "OAR LINE"
-2% LT & RT ETW
4
2
0
+6%
+4%
+2%
0%
-2%
-4%
-6%
7+760
7+800
7+840
7+880


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: FEMSOC
<P> (PM): 6.87-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279534
CONTRACT NO.: 980700
PPNO: 01-200W
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\COSN-113.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION
R. W. BROWNALL
DESIGNED BY: URS
DRAWN BY: JAB
REVIEWED BY: RWB
APPROVED BY: CJM
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 7+920 TO STA 8+100
L-13
SHEET 25 OF 80
NORTH
SCALE: 1" = 20'
402-171-12
NEWBY
7161 MYRTLE AVE
402-051-04
WILLIAMSON
7229 MYRTLE AVE
GUY EASEMENT
REMOVE OLD PUMP HOUSE
REMOVE SMALL EUCALYPTUS AND TRIM LARGE EUCALYPTUS
STA 8+015 C/L DWY W=11.2m ASPHALT
CONSTRUCT AC DWY
28.60m
11.21m
8+036 CLOSE DRIVEWAY ENTRANCE
MRGR TYPE SRT TERMINAL SYSTEM
STA 8+075 C/L DWY W=5.0m GRAVEL
STA 8+077.9 BEGIN RETAINING WALL TYPE 1 H=1.8m
TEMPORARY CONSTRUCTION EASEMENT
<P> ROW
<P> EP
RELOCATE POLE
DAY LIGHT
"MBGR TYPE SRT TERMINAL SYSTEM
RELOCATE SIGN
RELOCATE POLE
MBGR L=25.6m
CP#4
CP#113
OAR LINE
N00°56'04"E 148.47ft
7+960
8+000
8+040
MYRTLE AVE
<E> EP
<P> 450mm RCP L=27.5m
150mm DIKE TYPE D, L=20m
7+946.5 RT INSTALL 1YPL GO D. MAKE AC DEPRESSED AREA REMOVE <E> DI AND PIPE
STA 7+928 C/L DWY W=7.6m ASPHALT
STA 7+981 C/L DWY W=4.9m GRAVEL
STA 8+024 C/L DWY W=3.9m ASPHALT
STA 8+069 C/L DWY W=5.0m GRAVEL
<E> ROW
Δ=11°30'54" R=400.000m L=80.380m T=40.331m
OVERSTEEPEN SLOPE TO PROTECT <E> RWD TREES
8+080
SEE SHEET L-12 MATCHLINE - STA 7+920
MATCHLINE - STA 8+100 SEE SHEET L-14
402-081-25
HELGESON
7188 MYRTLE AVE
402-081-07
SCHUETZLE
7224 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
402-081-29
JORDAN
7240 MYRTLE AVE
402-081-08
STRAHAN
7254 MYRTLE AVE
402-081-09
SCHMIT
7270 MYRTLE AVE
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
260.000m VC
PVI STA = 7+880
PVI ELEV = 3.300
A.D. = 3.830
K = -36.556
140.000m VC
BVCS: 7+750
BVCE: 6.190
HIGH POINT ELEV = 9.052
HIGH POINT STA = 8+070.549
PVI STA = 8+080
PVI ELEV = 12.130
A.D. = -9.522
K = 27.305
LOWER GAS LINE & SERVICE CONNECTIONS
4.42 5.189
6.22 6.814
7.86 8.140
9.06 8.881
9.44 9.035
7+920
8+000
8+080
+4% LT ETW
-2% LT & RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
8+023.875 BC
8+104.265 EC
-4% RT ETW
+6%
+4%
+2%
0%
-2%
-4%
-6%
7+960
8+000
8+040
8+080

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKAL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-14
	ROAD NO.: 33K300	KP (PM): 6.27-10.66 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 26 OF 80
	PROJECT NO.: RSTP-5904(031)	EA NO.: 01-279534L	DRAWN BY: JAB		
	CONTRACT NO.: 982700	PPNO: 01-2001R	REVIEWED BY: RWL	PLAN AND PROFILE STA 8+100 TO STA 8+280	
	DRAWING FILE NAME: L:\PROJECTS\982700\DWG\CDSH-L14.DWG		APPROVED BY: CW		
	PLOT DATE: 03/30/2008				

Metric

NORTH
SCALE: 1: 250

402-051-18
SCHAENING
7291 MYRTLE AVE

TEMPORARY CONSTRUCTION EASEMENT

REMOVE "2" RWD

REMOVE PINE

STA 8+119.9
END RETAINING WALL

STA 8+125
C/L DWY
W=9.2m
ASPHALT

402-051-28
TARLTON
7303 MYRTLE AVE

REMOVE PINES

RELOCATE POLE

402-051-27
HUNT
7325 MYRTLE AVE

REMOVE 1ST RWD

<L> ROW

A=13°52'24"
R=305.000m
L=73.851m
T=37.107m

REMOVE RWD CLUMP

STA 8+187
C/L DWY
W=6.0m
ASPHALT

<P> EP

402-051-32
REDNER
7385 MYRTLE AVE

STA 8+223
C/L DWY
W=5.1m
GRAVEL

STA 8+243
C/L DWY
W=5.0m
ASPHALT

402-051-30
MEAD
7391 MYRTLE AVE

REMOVE 2 CYPRESS, 1 CEDAR, 3 POPLARS

RELOCATE POLE & GUY

SEE SHEET L-13
MATCHLINE - STA 8+100

8+104.265 EC

8+120

N12°26'57"E
37.293

8+141.558 BC

8+160

8+200

8+240

N01°25'26"W
63.859

8+276.409 EC

8+279.267 BC

SEE SHEET L-15
MATCHLINE - STA 8+280

RELOCATE POLE

RELOCATE POLE

OAR LINE

CP#42

PAVE AREA

DAYLIGHT

MYRTLE AVE

STA 8+129
C/L DWY
W=4.5m
GRAVEL

STA 8+145
C/L DWY
W=4.5m
GRAVEL

STA 8+186
C/L DWY
W=3.2m
GRAVEL

STA 8+215
C/L DWY
W=4.2m
GRAVEL

STA 8+275
C/L DWY
W=3.5m
GRAVEL

402-081-24
BAUCHNER
7294 MYRTLE AVE

402-081-23
GLASS
7310 MYRTLE AVE

MYRTLE AVENUE
SCALE: 1:250

402-071-07
HENDERSON
7342 MYRTLE AVE

402-071-27
ZIZZA
7358 MYRTLE AVE

402-071-54
-LUKE
7380 MYRTLE AVE

PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100

260.000m VC

130.000m VC

LOWER GAS LINE & SERVICE CONNECTIONS

HIGH POINT ELEV = 9.052
HIGH POINT STA = 8+070.549
PVI STA = 8+080
PVI ELEV = 12.130
A.D. = 9.522
K = 27.305

EVCS: 8+210
EVCE: 5.491

BVCS: 8+235
BVCE: 4.774

LOW POINT ELEV = 1.611
LOW POINT STA = 8+346.926
PVI STA = 8+280
PVI ELEV = 1.405
A.D. = 5.445
K = 23.874

-9.107%

9.03
8.604

7.99
7.596

8.25
5.991

4.27
4.005

2.63
2.549

8+160

8+240

10
8
6
4
2
0

+6%
+4%
+2%
0%
-2%
-4%
-6%

+5% RT. ETW

AXIS OF ROTATION ABOUT "OAR LINE"

-5% LT. ETW

8+104.265 EC

8+141.558 BC

8+215.409 EC

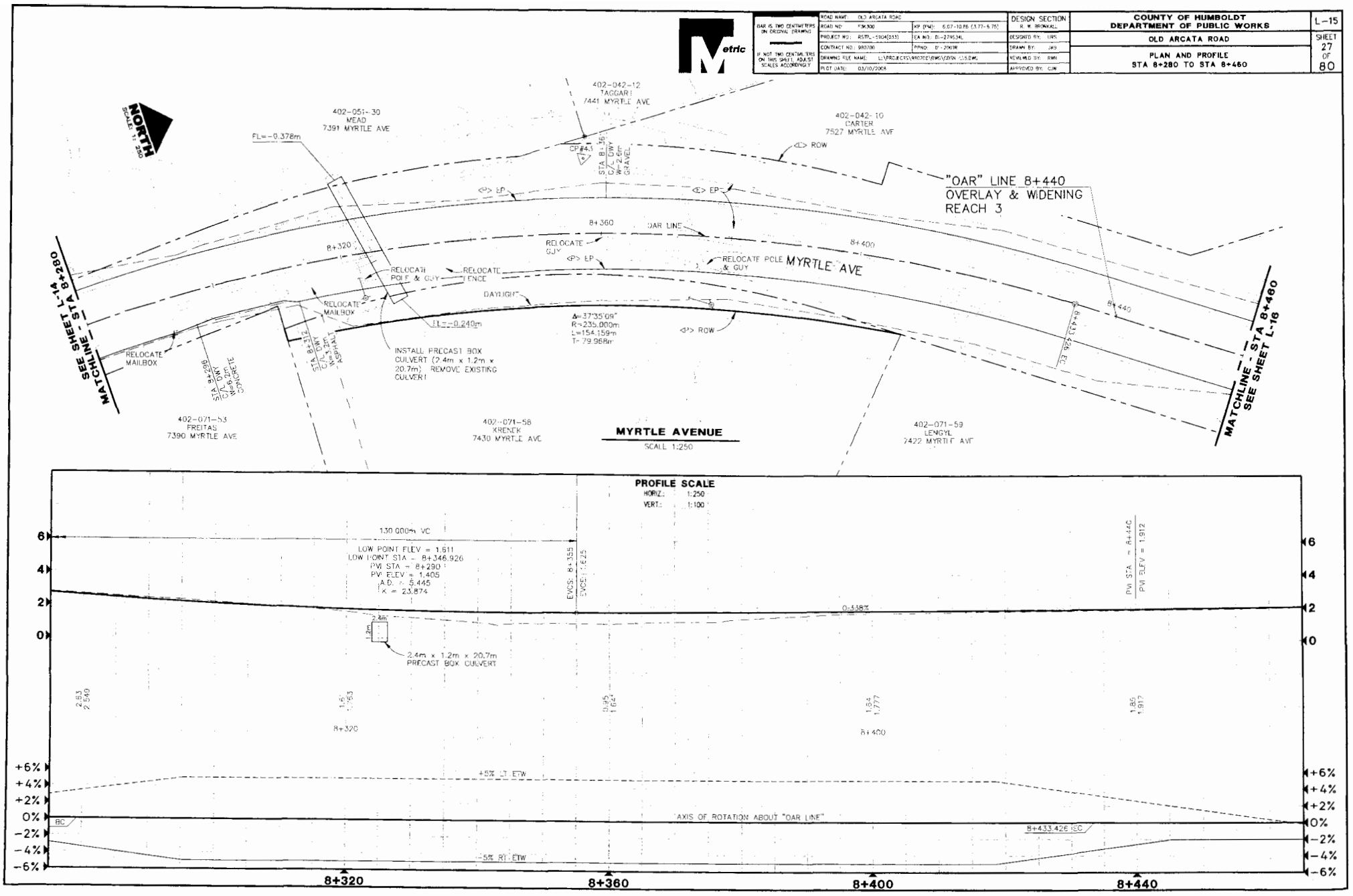
8+279.267 BC

8+120

8+160

8+200

8+240


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
Metric
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 1SK300
KP (PM): 6.67-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279L3U
CONTRACT NO.: 980700
PPNO: 01-2001R
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN 015.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION: R. W. BRONKAL
DESIGNED BY: URS
DRAWN BY: JAS
REVIEWED BY: RWB
APPROVED BY: CJW
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 8+280 TO STA 8+460
L-15
SHEET 27 OF 80
NORTH
SCALE: 1" = 50'
402-051-30
MEAD
7391 MYRTLE AVE
402-042-12
TAGGART
7441 MYRTLE AVE
402-042-10
CARTER
7527 MYRTLE AVE
FL=-0.378m
CP#43
STA 8+361
C/L DWY
W=2.6m
GRAVEL
ROW
EP
"OAR" LINE 8+440
OVERLAY & WIDENING
REACH 3
8+360
OAR LINE
8+400
8+320
RELOCATE POLE & GUY
RELOCATE FENCE
RELOCATE GUY
RELOCATE POLE & GUY
MYRTLE AVE
DAYLIGHT
RELOCATE MAILBOX
FL=-0.240m
Δ=37°35'08"
R=235.000m
L=154.159m
T=79.968m
8+440
SEE SHEET L-14
MATCHLINE - STA 8+280
RELOCATE MAILBOX
STA 8+286
C/L DWY
W=6.0m
ASPHALT
STA 8+312
C/L DWY
W=2.2m
ASPHALT
INSTALL PRECAST BOX CULVERT (2.4m x 1.2m x 20.7m); REMOVE EXISTING CULVERT
STA 8+433.926
C/L DWY
W=6.0m
ASPHALT
MATCHLINE - STA 8+460
SEE SHEET L-16
402-071-53
FREITAS
7390 MYRTLE AVE
402-071-58
KRENEK
7430 MYRTLE AVE
402-071-59
LENGYL
7422 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
130.000m VC
LOW POINT ELEV = 1.611
LOW POINT STA = 8+346.926
PVI STA = 8+290.1
PVI ELEV = 1.405
A.D. = 5.445
K = 23.874
EVCS: 8+355
EVCE: 1.625
PVI STA = 8+446
PVI ELEV = 1.912
0.438%
2.4m
1.2m
2.4m x 1.2m x 20.7m
PRECAST BOX CULVERT
2.83
2.540
1.61
1.563
1.65
1.642
1.64
1.777
1.85
1.917
8+320
8+400
+6%
+4%
+2%
0%
-2%
-4%
-6%
+5% LT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
BC
8+433.426 EC
-5% RT ETW
8+320
8+360
8+400
8+440

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS
	PROJECT NO.: RSTPL-5904(033)	FA NO.: 01-279634	DRAWN BY: JAB
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB
	DRAWING FILE NAME: I:\PROJECTS\980700\DWG\CDSN-L16.DWG		APPROVED BY: CJW
	PLOT DATE: 03/10/2008		

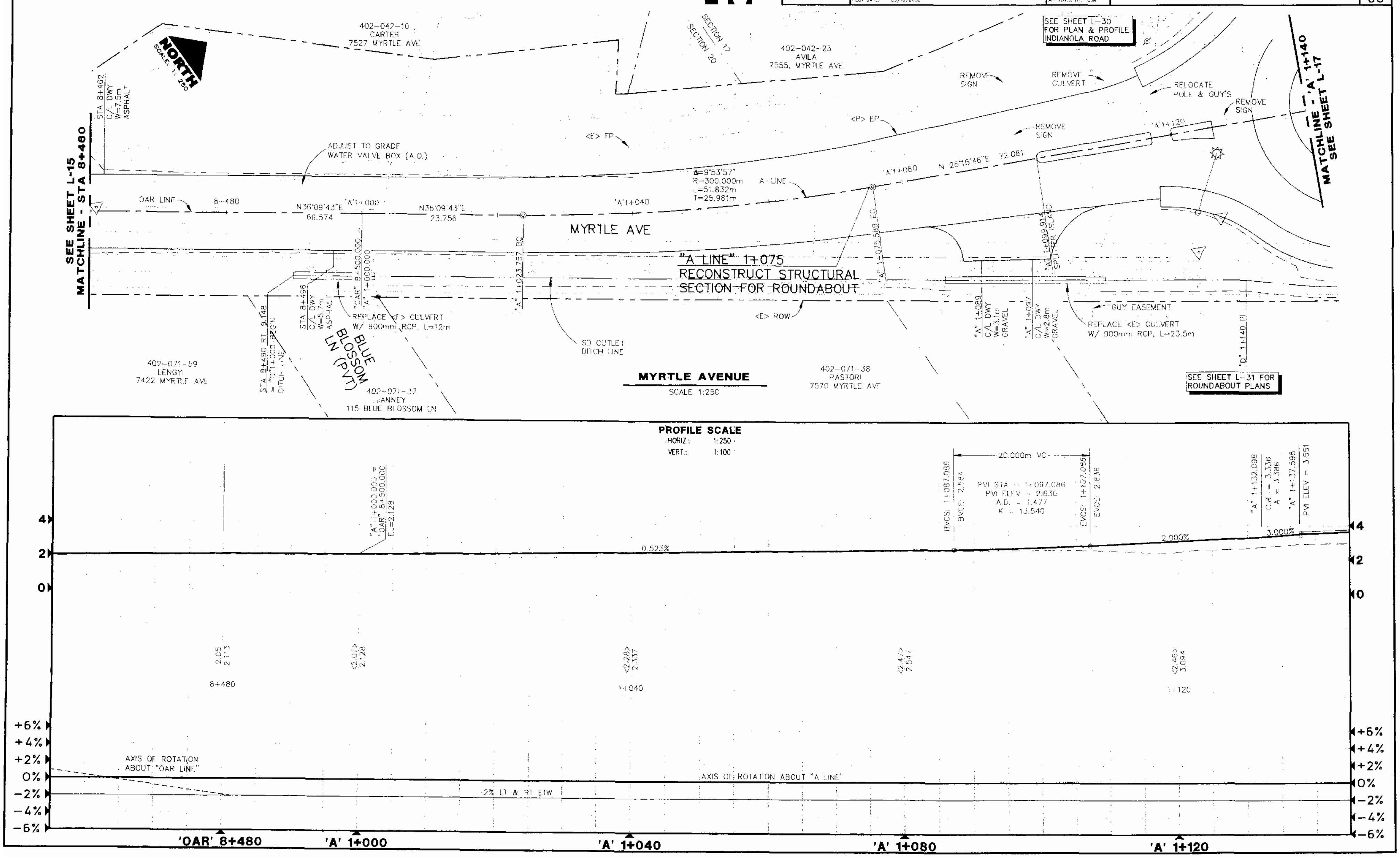
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

OLD ARCATA ROAD

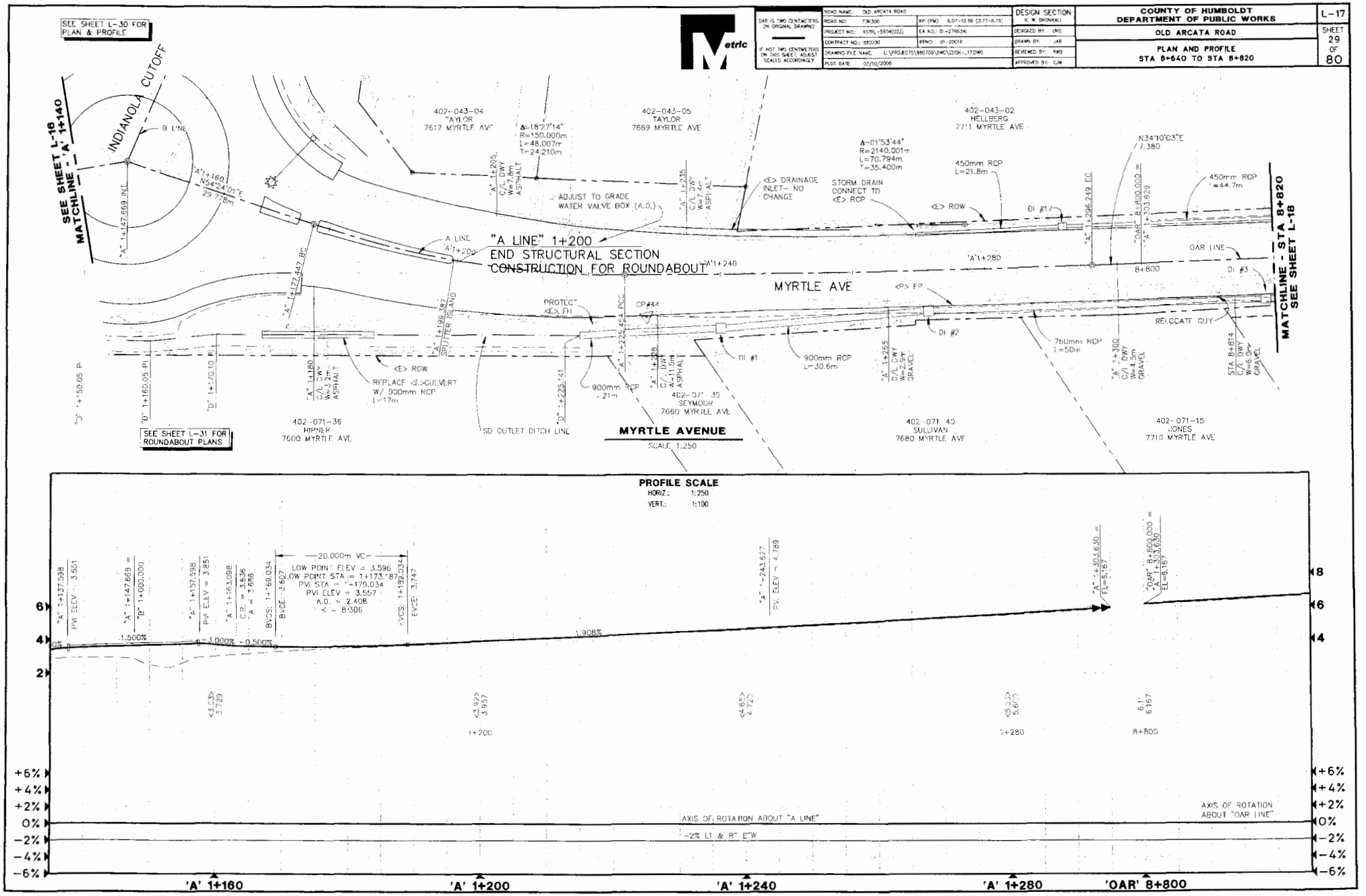
PLAN AND PROFILE
STA 8+460 TO STA 8+640

L-16

SHEET 28 OF 80

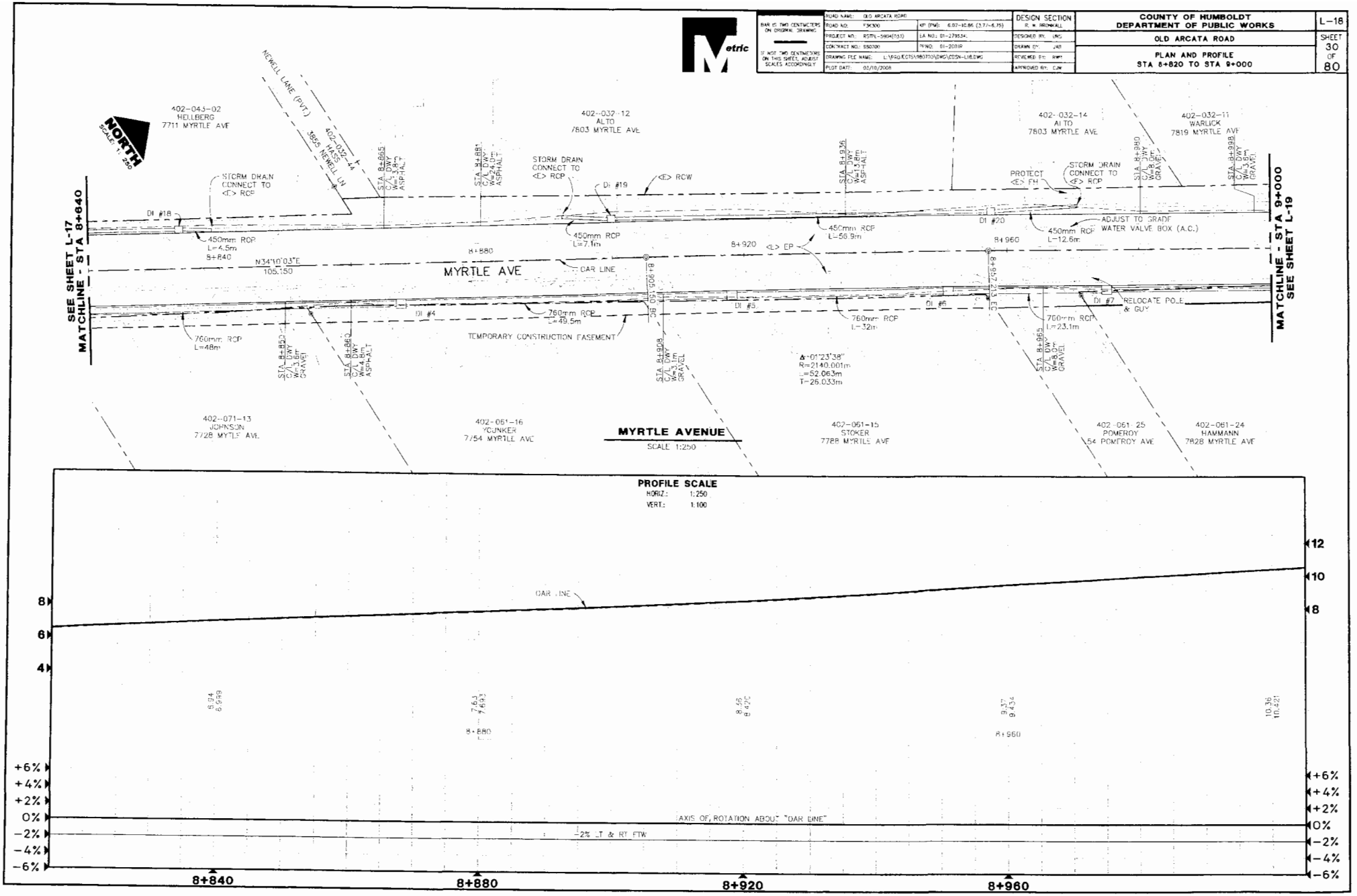


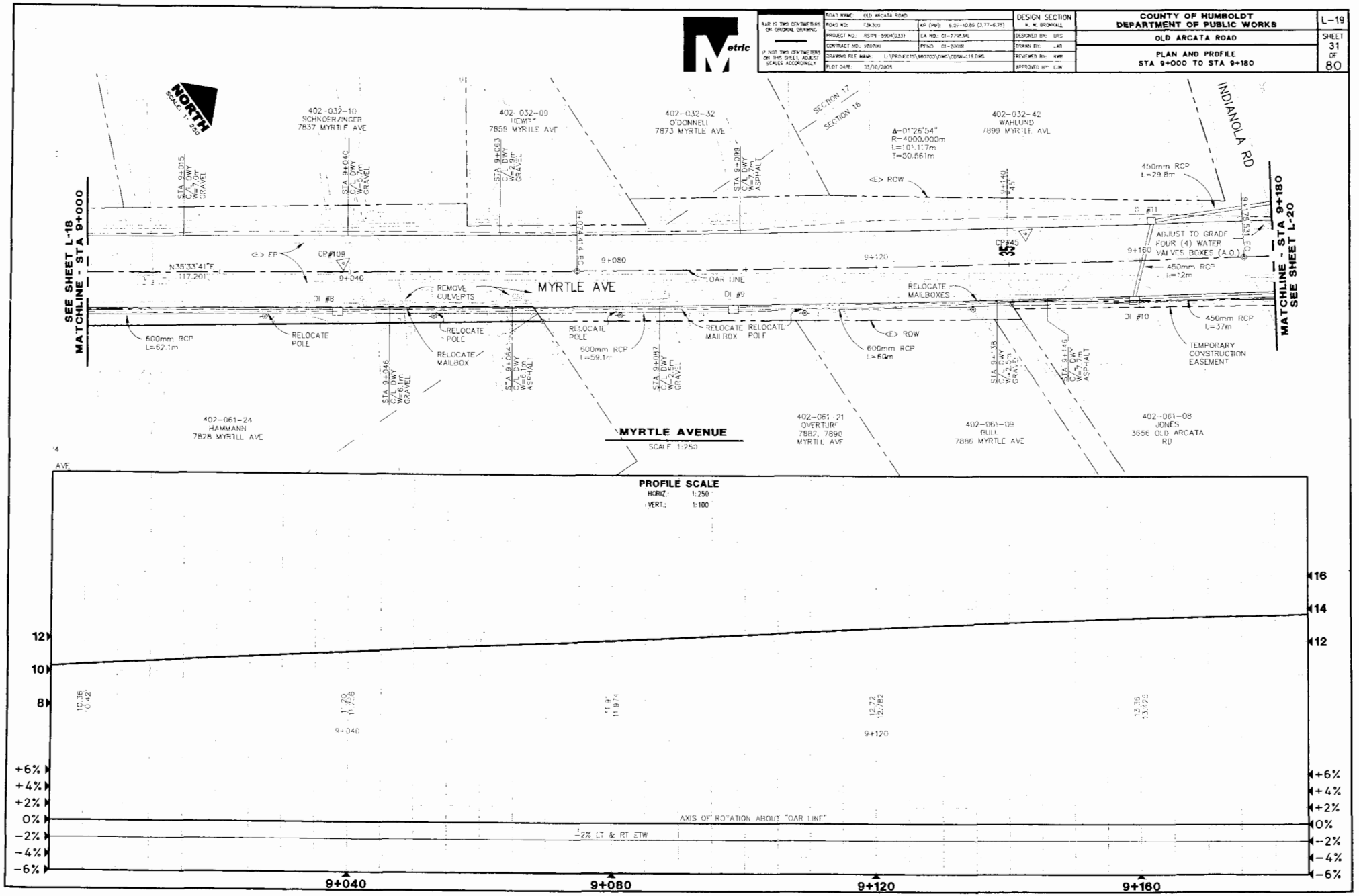
NORTH
SCALE: 1: 250
SEE SHEET L-15
MATCHLINE - STA 8+480
MATCHLINE - 'A' 1+140
SEE SHEET L-17
402-042-10
CARTER
7527 MYRTLE AVE
402-042-23
AVILA
7555, MYRTLE AVE
SECTION 17
SECTION 20
SEE SHEET L-30 FOR PLAN & PROFILE INDIANOLA ROAD
REMOVE SIGN
REMOVE CULVERT
RELOCATE POLE & GUY'S
STA 8+462
C/L DWY
W=7.5m
ASPHALT
ADJUST TO GRADE WATER VALVE BOX (A.O.)
<E> EP
<P> EP
Δ=9°53'57"
R=300.000m
L=51.832m
T=25.981m
A-LINE
'A'1+080
N 26°15'46"E 72.081
'A'1+120
OAR LINE
8+480
N36°09'43"E
66.574
'A'1+000
N36°09'43"E
23.756
'A'1+040
MYRTLE AVE
"A LINE" 1+075
RECONSTRUCT STRUCTURAL
SECTION FOR ROUNDABOUT
"A" 1+023.757 BC
"A" 1+075.589 EC
"A" 1+099.914
SPLITTER ISLAND
"OAR" 8+500.000
"A" 1+000.000
STA 8+496
C/L DWY
W=5.7m
ASPHALT
REPLACE <E> CULVERT
W/ 900mm RCP, L=12m
SD OUTLET DITCH LINE
<E> ROW
"A" 1+089
C/L DWY
W=3.1m
GRAVEL
"A" 1+097
C/L DWY
W=2.8m
GRAVEL
GUY EASEMENT
REPLACE <E> CULVERT
W/ 900mm RCP, L=23.5m
"D" 1+140 PI
STA 8+490 RT. 9.148
= "D" 1+000 BEGIN
DITCH LINE
BLUE BLOSSOM LN (PVT)
402-071-59
LENGYI
7422 MYRTLE AVE
402-071-37
JANNEY
115 BLUE BLOSSOM LN
MYRTLE AVENUE
SCALE 1:250
402-071-38
PASTORI
7570 MYRTLE AVE
SEE SHEET L-31 FOR ROUNDABOUT PLANS
PROFILE SCALE
HORIZ: 1:250
VERT: 1:100
"A" 1+000.000 =
"OAR" 8+500.000
E=2.128
BVCS: 1+087.086
BVCE: 2.584
20.000m VC
PVI STA = 1+097.086
PVI ELEV = 2.636
A.D. = 1.477
K = 13.540
EVCS: 1+107.086
EVCE: 2.836
"A" 1+132.098
C.R. = 3.336
A = 3.386
"A" 1+137.598
PVI ELEV = 3.551
0.523%
2.000%
3.000%
2.05
2.13
8+480
<2.07>
2.128
<2.28>
2.337
1+040
<2.47>
2.547
<2.46>
3.094
1+120
+6%
+4%
+2%
0%
-2%
-4%
-6%
AXIS OF ROTATION ABOUT "OAR LINE"
AXIS OF ROTATION ABOUT "A LINE"
2% LT & RT ETW
'OAR' 8+480
'A' 1+000
'A' 1+040
'A' 1+080
'A' 1+120



DAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: 536300	KP (PM): 6.07-10.55 (3.77-6.75)	DESIGNED BY: LNS	OLD ARCATA ROAD
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-278634	DRAWN BY: JAB	PLAN AND PROFILE STA 8+640 TO STA 8+820
	CONTRACT NO.: 950700	PPNO: 01-2001R	REVIEWED BY: RWB	
	DRAWING FILE NAME: L:\PROJECTS\950700\DWG\SDSH-17.DWG		APPROVED BY: CJW	
	PLOT DATE: 05/10/2006			

L-17
SHEET 29 OF 80


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 13K300
KP (PM): 6.82-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279534
CONTRACT NO.: 550700
PPNO: 01-2001R
DRAWING FILE NAME: L:\ENG\ECTS\550700\DWG\CDSN-L18.DWG
PLOT DATE: 02/10/2008
DESIGN SECTION
R. W. BROWNELL
DESIGNED BY: LNG
DRAWN BY: JAB
REVIEWED BY: RWB
APPROVED BY: CJW
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 8+820 TO STA 9+000
L-18
SHEET 30 OF 80
NORTH
SCALE 1: 250
NEWELL LANE (PVT)
402-043-02
HEILBERG
7711 MYRTLE AVE
402-032-24
3565 NEWELL LN
402-032-12
ALTO
7803 MYRTLE AVE
402-032-14
ALTO
7803 MYRTLE AVE
402-032-11
WARLICK
7819 MYRTLE AVE
SEE SHEET L-17
MATCHLINE - STA 8+640
MATCHLINE - STA 9+000
SEE SHEET L-19
STORM DRAIN CONNECT TO <E> RCP
DI #18
450mm RCP L=4.5m
8+840
N34°10'03"E 105.150
8+880
MYRTLE AVE
CAR LINE
450mm RCP L=7.1m
DI #19
<E> ROW
8+920
<L> EP
450mm RCP L=56.9m
8+960
PROTECT <E> FH
STORM DRAIN CONNECT TO <F> RCP
450mm RCP L=12.6m
ADJUST TO GRADE WATER VALVE BOX (A.C.)
DI #20
DI #7
RELOCATE POLE & GUY
760mm RCP L=48m
760mm RCP L=49.5m
TEMPORARY CONSTRUCTION EASEMENT
DI #4
DI #5
DI #6
760mm RCP L=32m
760mm RCP L=23.1m
Δ=01°23'38"
R=2140.001m
=52.063m
T=26.033m
STA 8+852 C/L DWY W=3.6m GRAVEL
STA 8+862 C/L DWY W=4.4m ASPHALT
STA 8+908 C/L DWY W=3.1m GRAVEL
STA 8+965 C/L DWY W=8.0m GRAVEL
402-071-13
JOHNSON
7728 MYRTLE AVE
402-061-16
YOUNKER
7754 MYRTLE AVE
402-061-15
STOKER
7788 MYRTLE AVE
402-061-25
POMEROY
54 POMEROY AVE
402-061-24
HAMMANN
7828 MYRTLE AVE
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
CAR LINE
6.84
6.648
7.61
7.693
8.48
8.470
9.37
9.434
10.36
10.421
8+880
8+960
AXIS OF ROTATION ABOUT "CAR LINE"
-2% LT & RT FTW
+6%
+4%
+2%
0%
-2%
-4%
-6%
8+840
8+880
8+920
8+960


Metric
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 736300
KP (PM): 6.27-10.88 (3.77-6.75)
PROJECT NO.: RSTP-5904(033)
EA NO.: 01-277M4
CONTRACT NO.: 980700
PPNO: 01-2001R
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSH-L19.DWG
PLOT DATE: 12/10/2009
DESIGN SECTION
K. W. BROWDALE
DESIGNED BY: URS
DRAWN BY: LAB
REVIEWED BY: KWB
APPROVED BY: CJW
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 9+000 TO STA 9+180
L-19
SHEET 31 OF 80
NORTH
SCALE: 1" = 20'
402-032-10
SCHNOERINGER
7837 MYRTLE AVE
402-032-09
HEWIT
7859 MYRTLE AVE
402-032-32
O'DONNELL
7873 MYRTLE AVE
402-032-42
WAHLUND
7899 MYRTLE AVE
SECTION 17
SECTION 16
INDIANOLA RD
Δ=01°26'54"
R=4000.000m
L=101.17m
T=50.561m
SEE SHEET L-18
MATCHLINE - STA 9+000
MATCHLINE - STA 9+180
SEE SHEET L-20
MYRTLE AVE
<E> ROW
<E> EP
CP#109
CP#45
N35°33'41"E
117.201
9+040
9+080
9+120
9+160
OAR LINE
DI #8
DI #9
DI #10
DI #11
REMOVE CULVERTS
RELOCATE POLE
RELOCATE MAILBOX
RELOCATE MAILBOXES
RELOCATE POLE
600mm RCP L=62.1m
600mm RCP L=59.1m
600mm RCP L=60m
450mm RCP L=29.8m
450mm RCP L=12m
450mm RCP L=37m
ADJUST TO GRADE FOUR (4) WATER VALVES BOXES (A.D.)
TEMPORARY CONSTRUCTION EASEMENT
STA 9+015 C/L DWY W=7.0m GRAVEL
STA 9+046 C/L DWY W=5.7m GRAVEL
STA 9+046 W/L DWY W=6.1m GRAVEL
STA 9+053 C/L DWY W=5.5m GRAVEL
STA 9+063 C/L DWY W=6.4m ASPHALT
STA 9+092 C/L DWY W=7.7m ASPHALT
STA 9+092 W/L DWY W=2.5m GRAVEL
STA 9+138 C/L DWY W=2.5m GRAVEL
STA 9+146 C/L DWY W=5.7m ASPHALT
402-061-24
HAMMANN
7828 MYRTLE AVE
402-061-21
OVERTURF
7882, 7890
MYRTLE AVE
402-061-09
BULL
7886 MYRTLE AVE
402-061-08
JONES
3656 OLD ARCATA RD
MYRTLE AVENUE
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
16
14
12
10
8
+6%
+4%
+2%
0%
-2%
-4%
-6%
10.36
10.42
11.20
11.26
11.91
11.97
12.72
12.82
13.35
13.45
AXIS OF ROTATION ABOUT "OAR LINE"
-2% LT & RT ETW
9+040
9+080
9+120
9+160

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME: OLD ARCATA ROAD			DESIGN SECTION: R. W. BRONKALL
ROAD NO.: FEM300	KP (PM): 6.07–10.86 (3.77–6.75)		
PROJECT NO.: RSTPL–5904(033)	EA NO.: 01–279634		DESIGNED BY: URS
CONTRACT NO.: 980700	PPNO: 01–200IN		DRAWN BY: JAB
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSW–L20.DWG			REVIEWED BY: RWB
PLOT DATE: 03/10/2008			APPROVED BY: CW

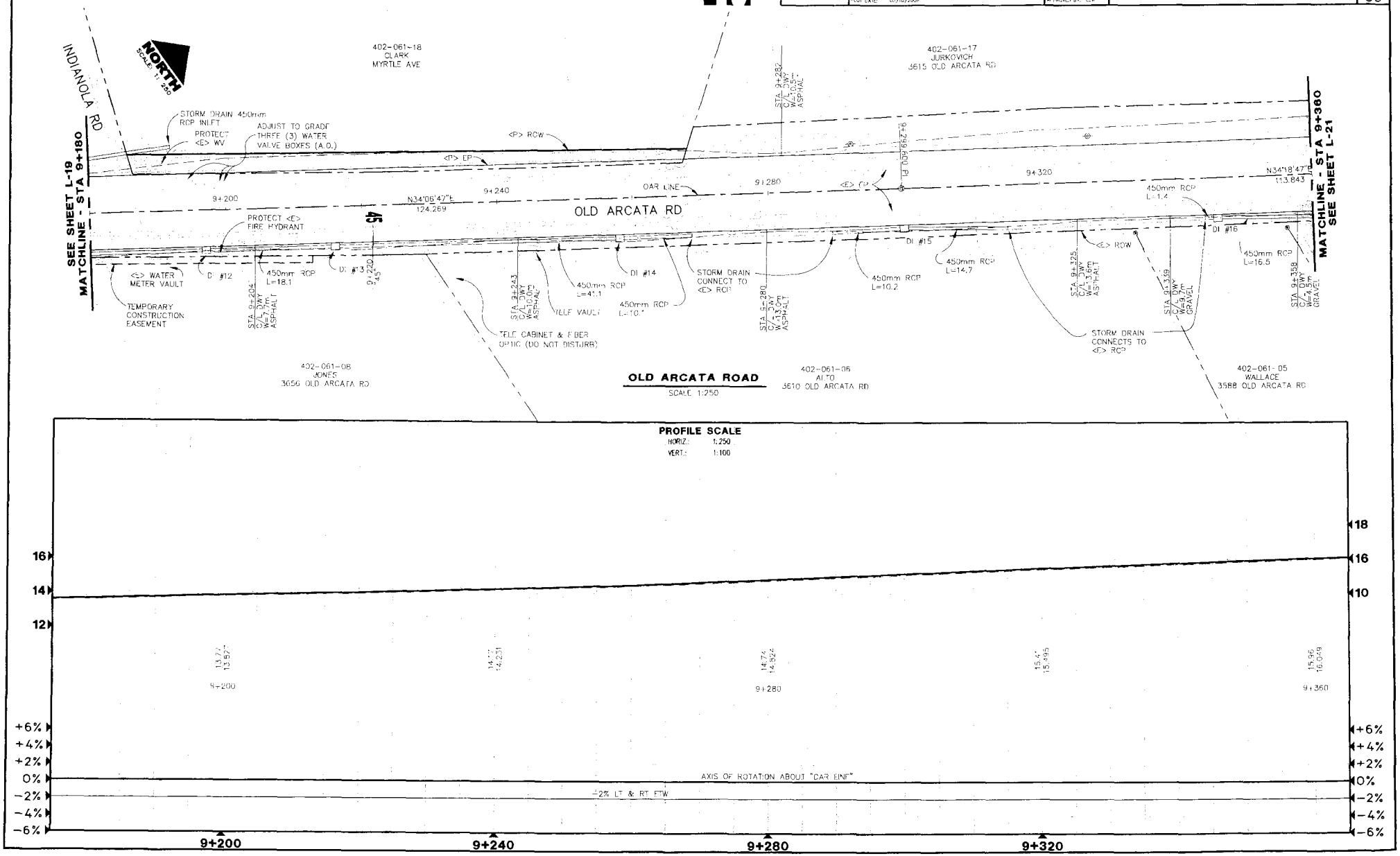
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

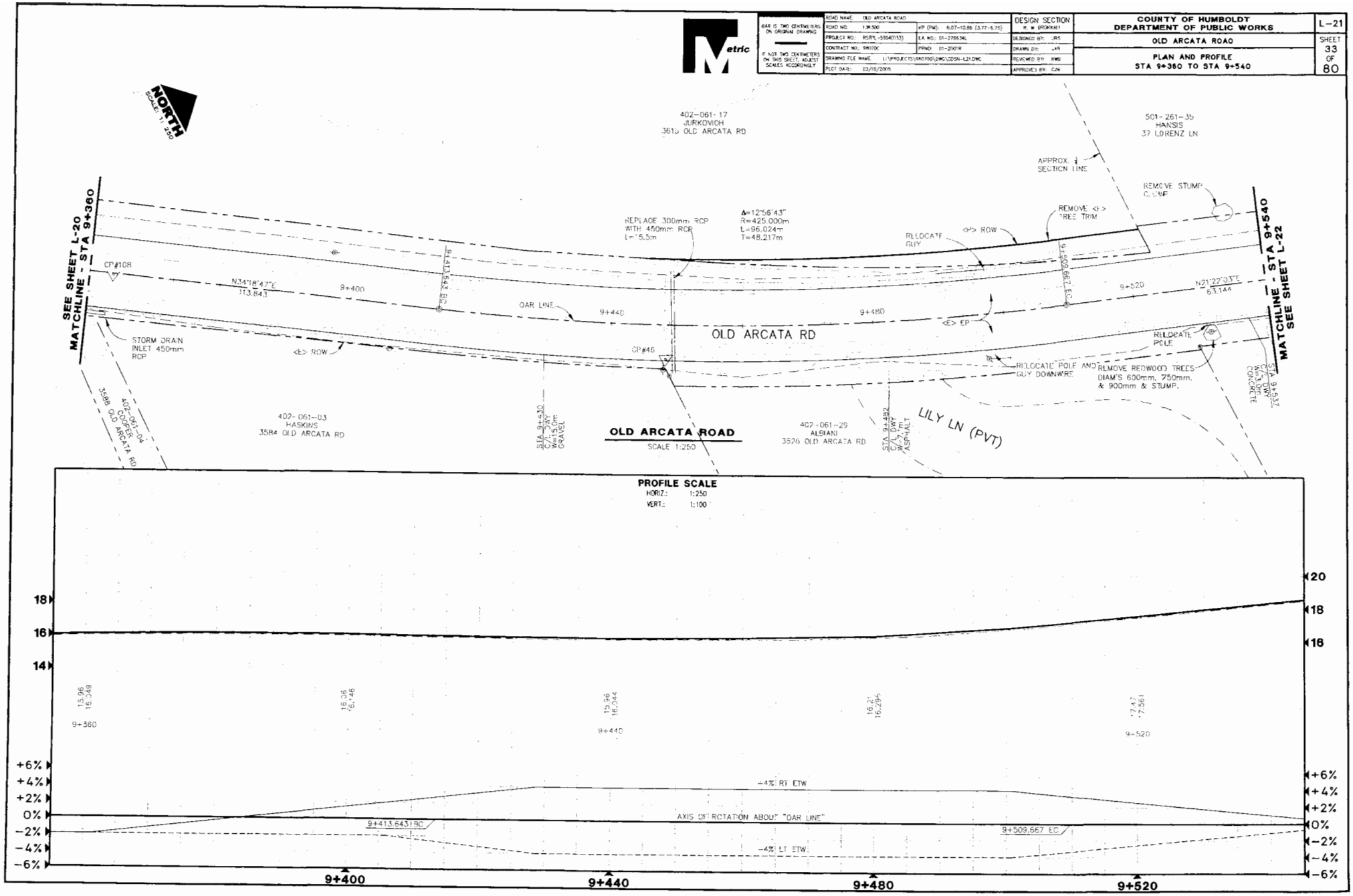
OLD ARCATA ROAD

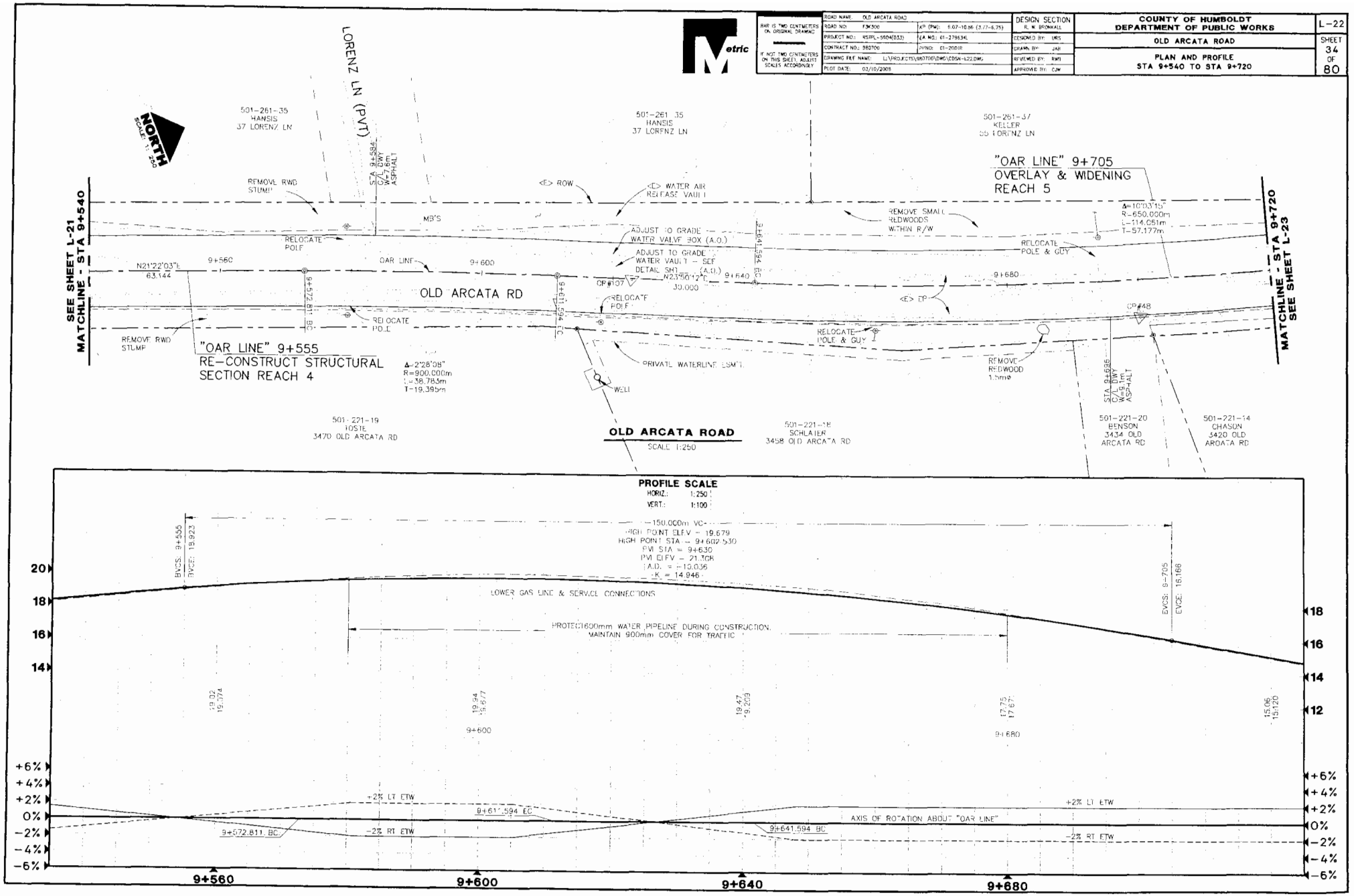
PLAN AND PROFILE
STA 9+180 TO STA 9+360

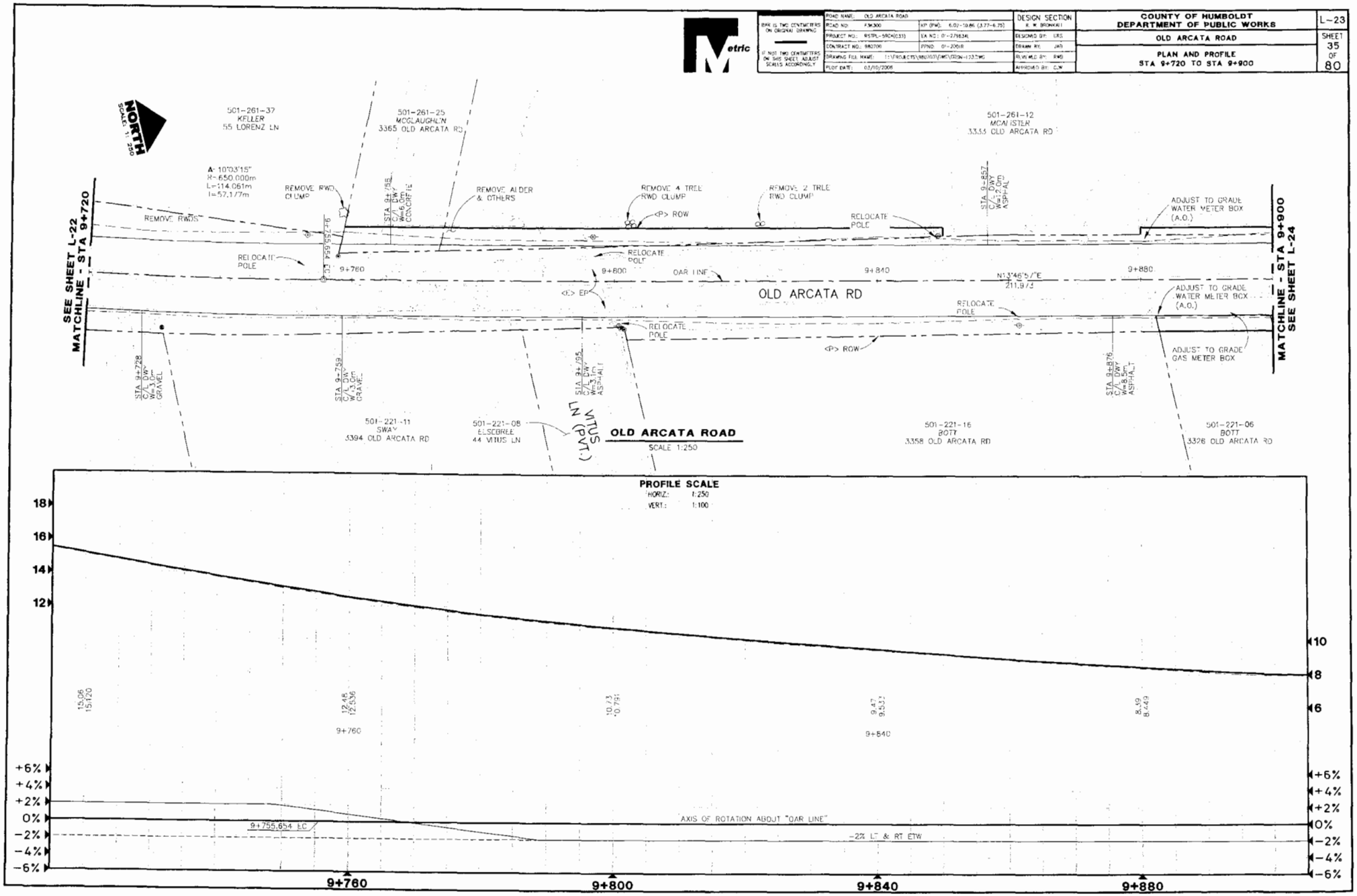
L–20

SHEET 32 OF 80

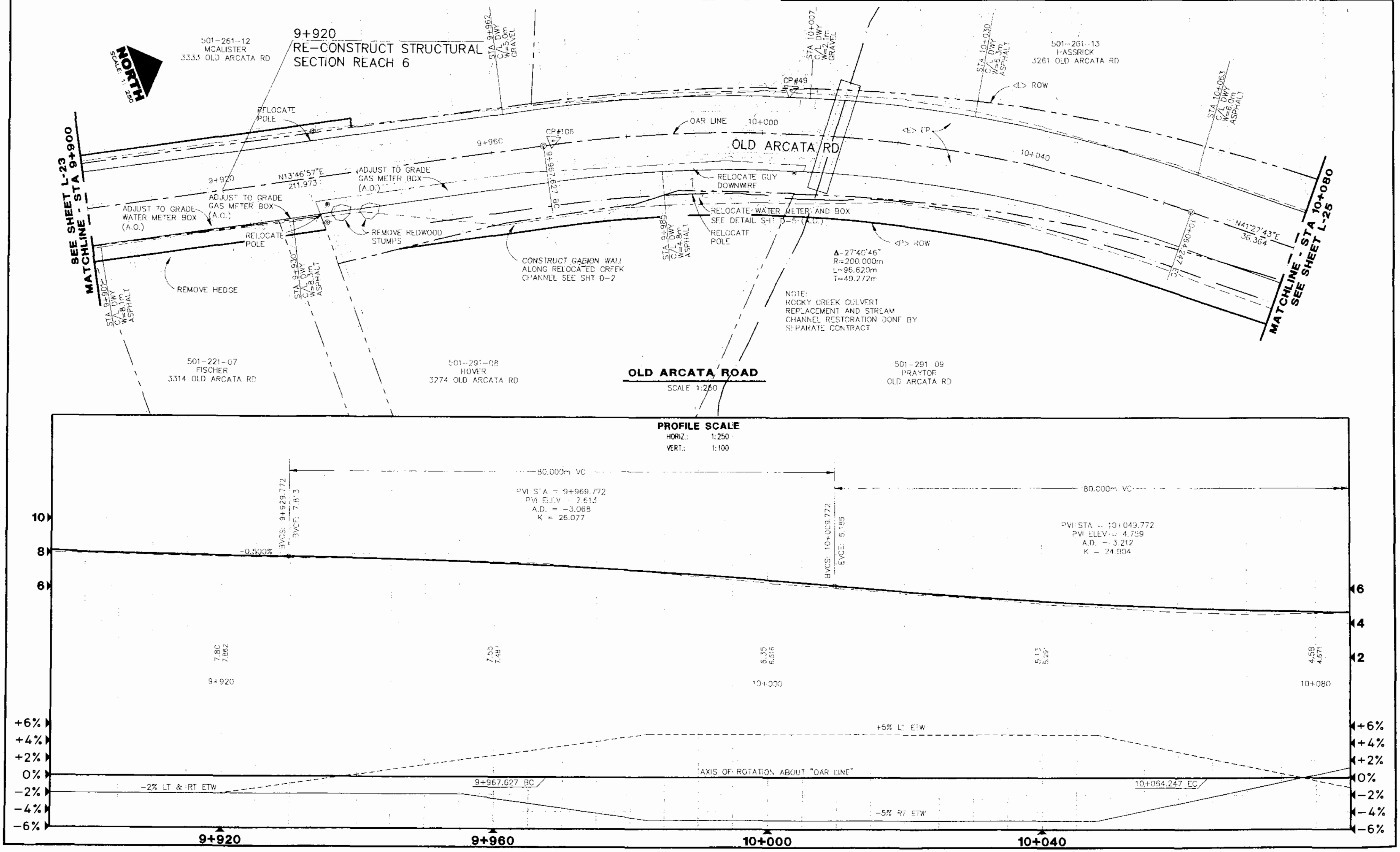



Metric
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 439500
KP (PM): 6.07-10.86 (3.77-6.75)
PROJECT NO.: RSPL-5954(033)
E.A. NO.: 01-279634L
CONTRACT NO.: 9H070C
PPNO: 01-2069R
DRAWING FILE NAME: L:\PROJECTS\9H070\DWG\LDSN-L21.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION
H. W. BROKAW
DESIGNED BY: JRS
DRAWN BY: JAR
REVIEWED BY: RMB
APPROVED BY: CJN
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 9+360 TO STA 9+540
L-21
SHEET 33 OF 80
NORTH
SCALE 1" = 50'
402-061-17
JURKOVICH
3615 OLD ARCATA RD
501-261-35
HANSIS
37 LORENZ LN
APPROX. SECTION LINE
REMOVE STUMP & CHIP
REMOVE <E> TREE TRIM
SEE SHEET L-20
MATCHLINE - STA 9+360
REPLACE 300mm RCP WITH 450mm RCP L=15.5m
Δ=12°56'43"
R=425.000m
L=96.024m
T=48.217m
RELOCATE GUY
<P> ROW
CP#10R
N34°18'47"E
113.843
9+400
9+440
9+480
9+520
N21°22'03"E
63.144
OAR LINE
OLD ARCATA RD
<E> EP
STORM DRAIN INLET 450mm RCP
<E> ROW
CP#46
RELOCATE POLE AND GUY DOWNWIRE
REMOVE REDWOOD TREES DIAM'S 600mm, 750mm, & 900mm & STUMP.
RELOCATE POLE
SEE SHEET L-22
MATCHLINE - STA 9+540
402-061-04
COOPER
3588 OLD ARCATA RD
402-061-03
HASKINS
3584 OLD ARCATA RD
STA 9+430 C/L 12WY W=13.0m GRAVEL
OLD ARCATA ROAD
SCALE 1:250
STA 9+492 C/L 2 WAY ASPHALT
402-061-25
ALBIANI
3526 OLD ARCATA RD
LILY LN (PVT)
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
18
16
14
20
18
16
15.96
16.049
9+360
16.06
16.146
15.96
16.044
9+440
16.21
16.294
17.47
17.561
9+520
+6%
+4%
+2%
0%
-2%
-4%
-6%
-4% RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
9+413.643 PC
9+509.667 EC
-4% LT ETW
9+400
9+440
9+480
9+520


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 33K300
XP (PM): 6.07-10.86 (3.77-6.75)
PROJECT NO.: RSRPL-5904(033)
EA NO.: 01-279634L
CONTRACT NO.: 380700
PWNO: 01-20018
DRAWING FILE NAME: L:\PROJECTS\380700\DWG\CDSH-L22.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION R. N. BRONKALL
DESIGNED BY: URS
DRAWN BY: JAR
REVIEWED BY: RWI
APPROVED BY: CJW
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 9+540 TO STA 9+720
L-22
SHEET 34 OF 80
NORTH
SCALE: 1" = 50'
LORENZ LN (PVT)
501-261-35 HANSIS 37 LORENZ LN
501-261-37 KELLER 55 LORENZ LN
STA 9+584 C/L DWY W=7.6m ASPHALT
REMOVE RWD STUMP
<E> ROW
<E> WATER AIR RELEASE VAULT
"OAR LINE" 9+705
OVERLAY & WIDENING
REACH 5
Δ=10°03'15"
R=650.000m
L=114.051m
T=57.177m
REMOVE SMALL REDWOODS WITHIN R/W
RELOCATE POLE & GUY
MB'S
RELOCATE POLE
ADJUST TO GRADE WATER VALVE BOX (A.D.)
ADJUST TO GRADE WATER VAULT - SEE DETAIL SH1 (A.D.)
SEE SHEET L-21 MATCHLINE - STA 9+540
MATCHLINE - STA 9+720 SEE SHEET L-23
N21°22'03"E 63.144
9+560
OAR LINE
9+600
N23°56'12"E 30.000
9+640
9+680
OP#107
OLD ARCATA RD
<E> CP
OP#48
RELOCATE POLE
REMOVE RWD STUMP
"OAR LINE" 9+555
RE-CONSTRUCT STRUCTURAL SECTION REACH 4
Δ=2°28'08"
R=900.000m
L=38.785m
T=19.395m
PRIVATE WATERLINE ESMT.
WELL
RELOCATE POLE & GUY
REMOVE REDWOOD 1.5mø
STA 9+636 C/L DWY W=9.1m ASPHALT
501-221-19 IOSIE 3470 OLD ARCATA RD
OLD ARCATA ROAD
SCALE 1:250
501-221-18 SCHLAIER 3458 OLD ARCATA RD
501-221-20 BENSON 3434 OLD ARCATA RD
501-221-14 CHASON 3420 OLD ARCATA RD
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
-150.000m VC-
HIGH POINT ELEV = 19.679
HIGH POINT STA = 9+602.530
PVI STA = 9+630
PVI ELEV = 21.308
A.D. = -10.036
-K = 14.946-
BVCS: 9+555
BVCE: 18.923
EVCS: 9+705
EVCE: 18.166
LOWER GAS LINE & SERVICE CONNECTIONS
PROTECT 1600mm WATER PIPELINE DURING CONSTRUCTION. MAINTAIN 900mm COVER FOR TRAFFIC
19.02 19.174
19.94 19.677
18.47 19.209
17.75 17.67
15.06 15.120
9+600
9+680
+2% LT ETW
9+611.594 EC
9+572.811 BC
-2% RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
9+641.594 BC
+2% LT ETW
-2% RT ETW
20
18
16
14
12
+6%
+4%
+2%
0%
-2%
-4%
-6%
9+560
9+600
9+640
9+680

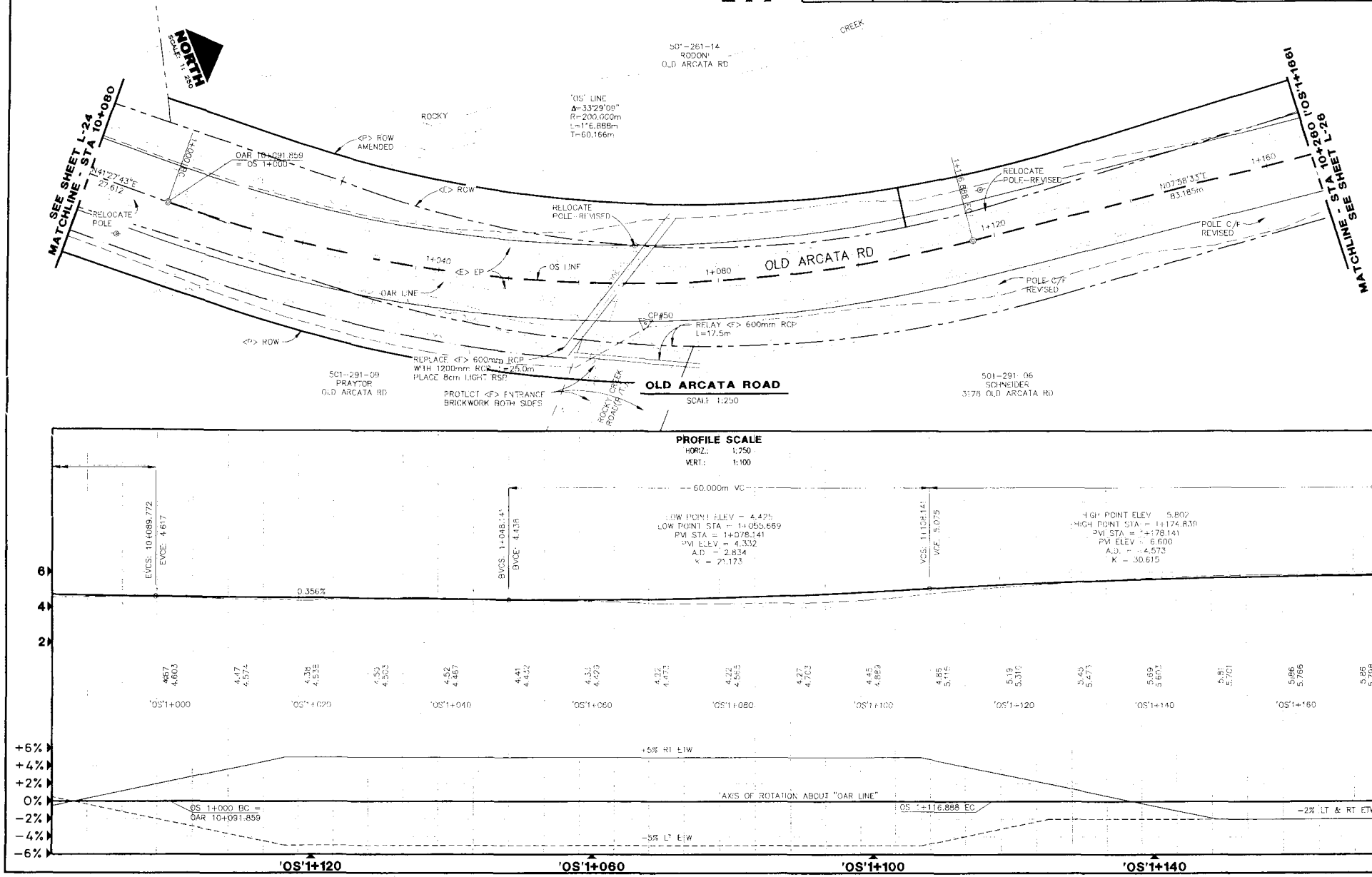

Metric
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: FAS300
KP (PM): 6.07-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-27834L
CONTRACT NO.: 980700
PPNO: 01-2001R
DRAWING FILE NAME: I:\PROJECTS\980700\DWG\ERON-123.DWG
PLOT DATE: 03/10/2006
DESIGN SECTION
R. W. BRONKALL
DESIGNED BY: URS
DRAWN BY: JAR
REVIEWED BY: RWB
APPROVED BY: CJW
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 9+720 TO STA 9+900
L-23
SHEET 35 OF 80
NORTH
SCALE: 1" = 250'
501-261-37
KELLER
55 LORENZ LN
501-261-25
MCGLAUGHLIN
3365 OLD ARCATA RD
501-261-12
MCALISTER
3335 OLD ARCATA RD
Δ= 10°03'15"
R=650.000m
L=114.061m
l=57.177m
REMOVE RWD
REMOVE RWD CLUMP
REMOVE ALDER & OTHERS
REMOVE 4 TREE RWD CLUMP
REMOVE 2 TREE RWD CLUMP
<P> ROW
RELOCATE POLE
STA 9+857 C/L DWY W=12.0m ASPHALT
ADJUST TO GRADE WATER METER BOX (A.O.)
SEE SHEET L-22 MATCHLINE - STA 9+720
MATCHLINE - STA 9+900 SEE SHEET L-24
9+755.654 EC
9+760
9+800
9+840
9+880
OAR LINE
<E> EP
N13°46'57"E 211.97'
OLD ARCATA RD
STA 9+728 C/L DWY W=3.0m GRAVEL
STA 9+759 C/L DWY W=3.0m GRAVEL
STA 9+795 C/L DWY W=3.1m ASPHALT
STA 9+876 C/L DWY W=8.5m ASPHALT
ADJUST TO GRADE GAS METER BOX
501-221-11
SWAY
3394 OLD ARCATA RD
501-221-08
ELSCBREE
44 VITUS LN
VITUS LN (PVT.)
OLD ARCATA ROAD
SCALE 1:250
501-221-16
BOTT
3358 OLD ARCATA RD
501-221-06
BOTT
3326 OLD ARCATA RD
PROFILE SCALE
HORIZ: 1:250
VERT: 1:100
18
16
14
12
10
8
6
+6%
+4%
+2%
0%
-2%
-4%
-6%
15.06
15.120
12.48
12.536
10.73
10.791
9.47
9.531
8.39
8.449
AXIS OF ROTATION ABOUT "OAR LINE"
-2% LT & RT ETW
9+755.654 EC
9+760
9+800
9+840
9+880

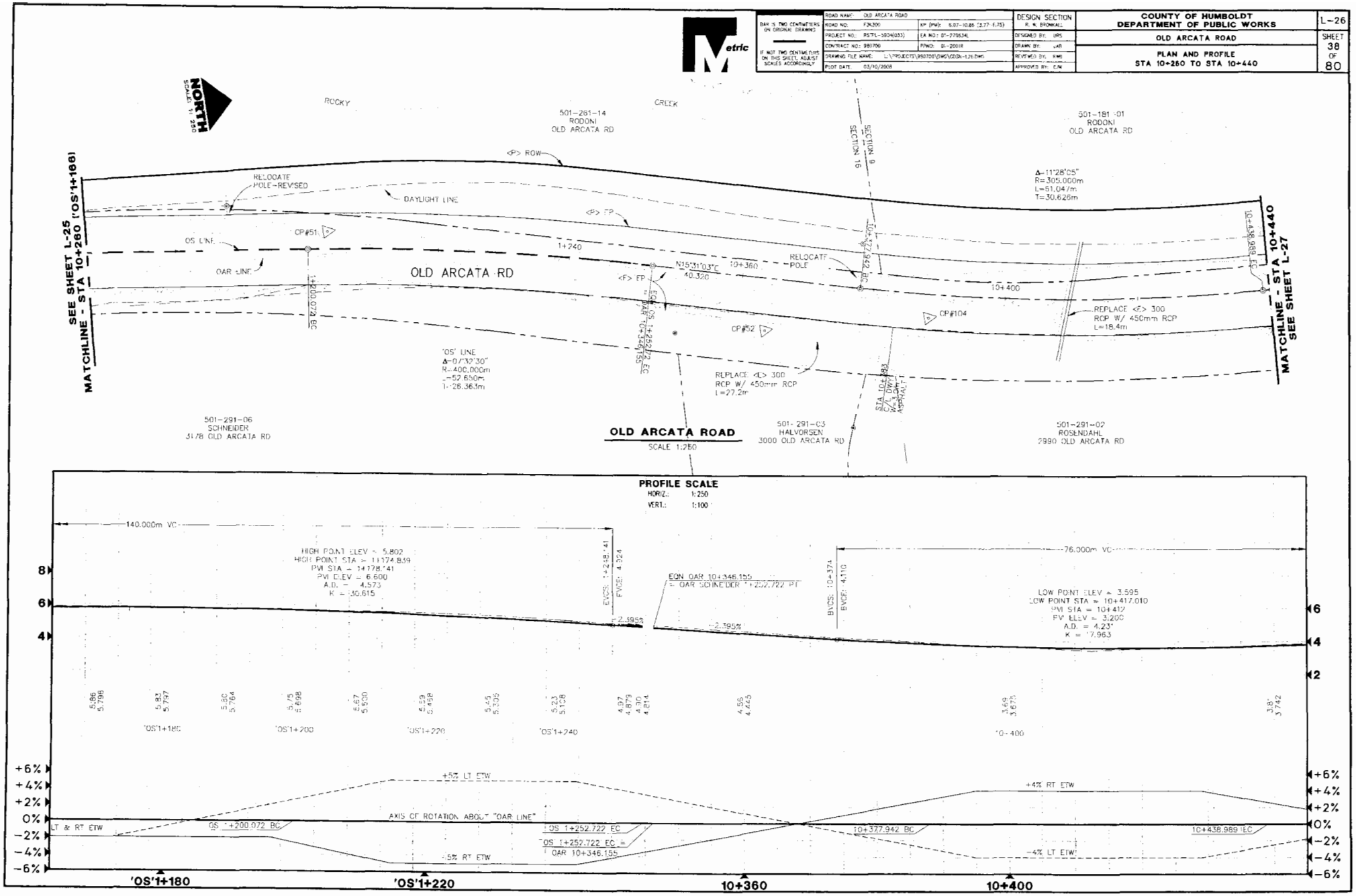
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD	DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-24
	ROAD NO.: F3K300 — KP (PM): 6.07-10.85 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 36 OF 80
	PROJECT NO.: RSTPL-5904(033) — FA NO.: 01-279634L	DRAWN BY: JAG	PLAN AND PROFILE STA 9+900 TO STA 10+080	
	CONTRACT NO.: 980700 — PPNO: 01-2001R	REVIEWED BY: RWD		
	DRAWING FILE NAME: L:\PROJECTS\980703\DWG\CDSN-L24.DWG	APPROVED BY: CJW		
	PLOT DATE: 03/10/2008			



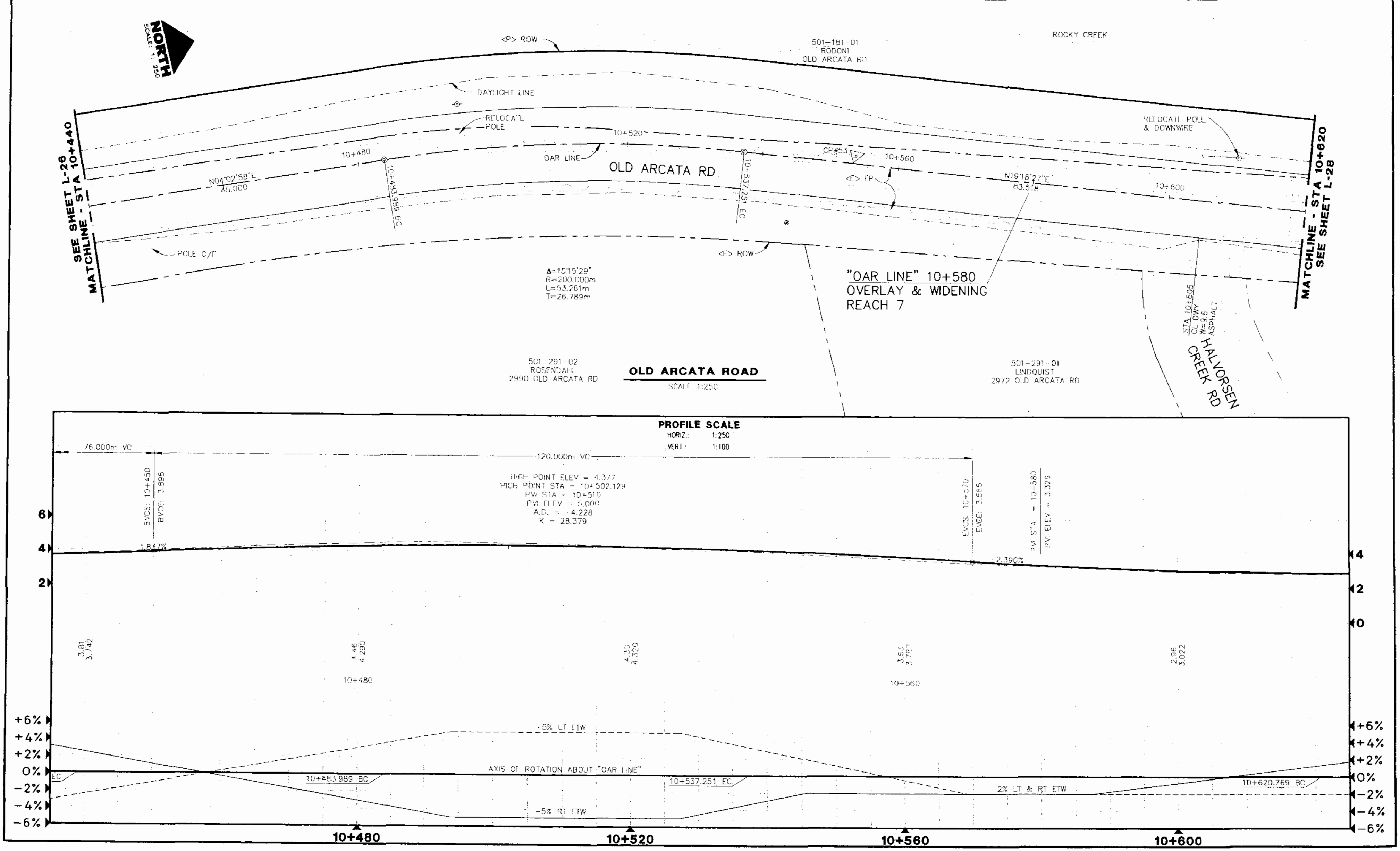
NORTH
SCALE: 1:250
501-261-12
MCALISTER
3333 OLD ARCATA RD
9+920
RE-CONSTRUCT STRUCTURAL
SECTION REACH 6
STA 9+962
C/L DWY
W=5.0m
GRAVEL
STA 10+007
C/L DWY
W=2.1m
GRAVEL
CP#49
STA 10+030
C/L DWY
W=5.3m
ASPHALT
501-261-13
HASSRICK
3261 OLD ARCATA RD
<L> ROW
STA 10+063
C/L DWY
W=6.0m
ASPHALT
RELOCATE POLE
OAR LINE
10+000
CP#106
9+960
OLD ARCATA RD
<E> EP
10+040
SEE SHEET L-23
MATCHLINE - STA 9+900
9+920
N13°46'57"E
211.973
ADJUST TO GRADE GAS METER BOX (A.O.)
9+967.627 BC
RELOCATE GUY DOWNWIRE
ADJUST TO GRADE GAS METER BOX (A.O.)
ADJUST TO GRADE WATER METER BOX (A.O.)
RELOCATE POLE
REMOVE REDWOOD STUMPS
RELOCATE WATER METER AND BOX
SEE DETAIL SHT D-5 (A.O.)
RELOCATE POLE
<P> ROW
N41°27'43"E
36.364
10+064.247 EC
MATCHLINE - STA 10+080
SEE SHEET L-25
STA 9+901
C/L DWY
W=8.1m
ASPHALT
REMOVE HEDGE
STA 9+930
C/L DWY
W=8.3m
ASPHALT
CONSTRUCT GABION WALL ALONG RELOCATED CREEK CHANNEL SEE SHT D-2
STA 9+985
C/L DWY
W=4.8m
ASPHALT
Δ=27°40'46"
R=200.000m
L=96.620m
T=49.272m
NOTE:
ROCKY CREEK CULVERT REPLACEMENT AND STREAM CHANNEL RESTORATION DONE BY SEPARATE CONTRACT
501-221-07
FISCHER
3314 OLD ARCATA RD
501-291-08
HOVER
3274 OLD ARCATA RD
OLD ARCATA ROAD
SCALE 1:250
501-291-09
PRAYTOR
OLD ARCATA RD
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
80.000m VC
PVI STA = 9+969.772
PVI ELEV = 7.613
A.D. = -3.068
K = 26.077
BVCS: 9+929.772
BVCE: 7.813
-0.500%
BVCS: 10+009.772
EVCE: 5.185
80.000m VC
PVI STA = 10+049.772
PVI ELEV = 4.759
A.D. = -3.212
K = 24.904
10
8
6
6
4
2
7.80
7.862
9+920
7.55
7.487
6.35
6.516
10+000
5.13
5.29
4.58
4.671
10+080
+6%
+4%
+2%
0%
-2%
-4%
-6%
+5% LT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
-2% LT & RT ETW
9+967.627 BC
10+064.247 EC
-5% RT ETW
9+920
9+960
10+000
10+040

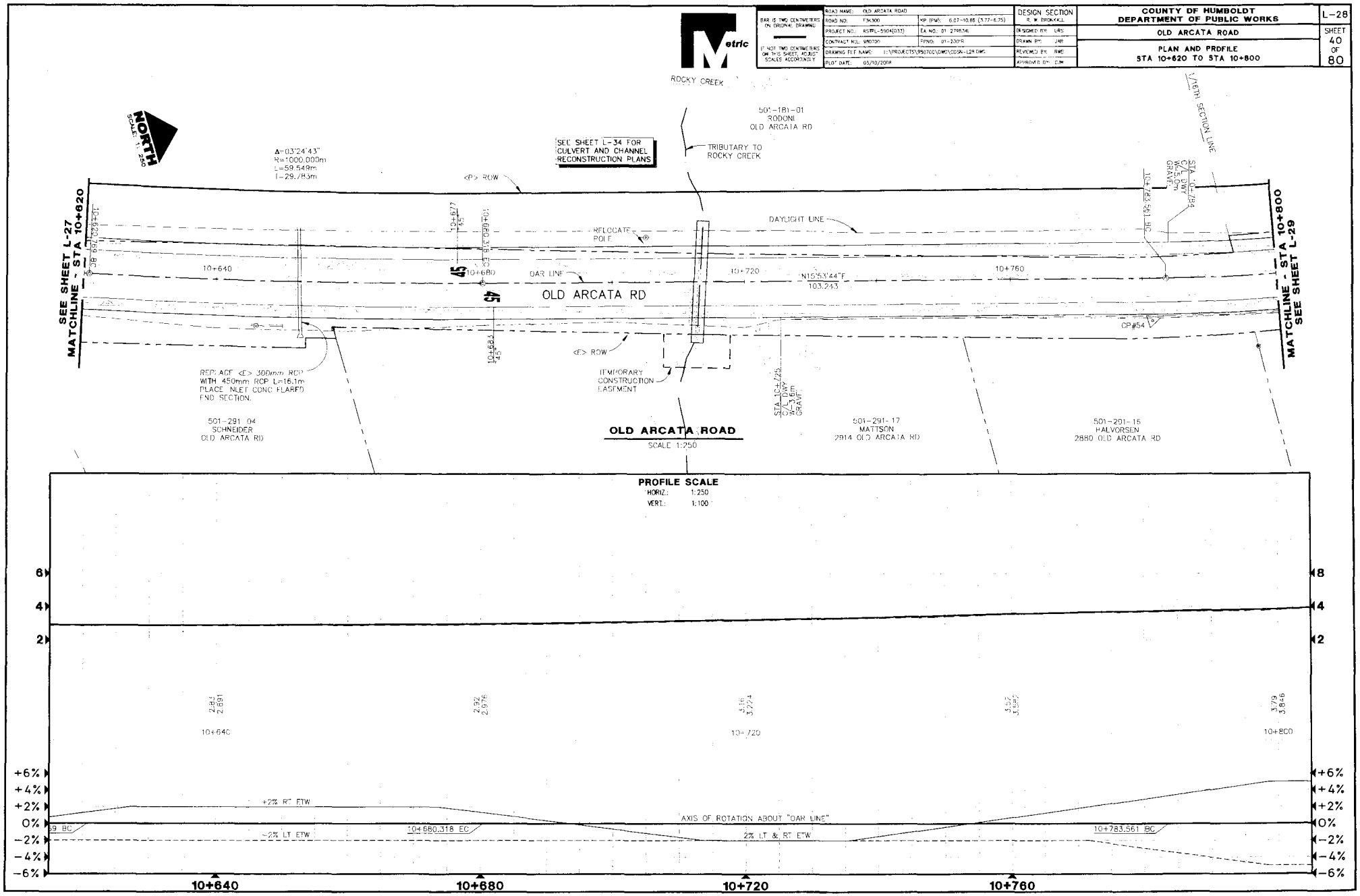
DAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R/W (BRONKAR)	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-25
	ROAD NO.: R3K300	KP (PM): 6.07-10.86 (3.77-6.75)		OLD ARCATA ROAD	SHEET 37 OF 80
	PROJECT NO.: RSTP-5904(033)	EA NO.: 01-228634	DESIGNED BY: JRS		
	CONTRACT NO.: 980700	PPNO: 01-20CHF	DRAWN BY: JAB	PLAN AND PROFILE STA 10+080 TO STA 10+260	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CSN-L25.DWG		REVIEWED BY: RWB		
	PLOT DATE: 03/16/2006		APPROVED BY: CJW		




BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: F3K300
KP (PM): 6.87-10.86 (3.77-E.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279634L
CONTRACT NO.: 980700
PPNO: 01-2001R
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSH-L26.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION
R. K. BRONKALL
DESIGNED BY: JRS
DRAWN BY: LAR
REVIEWED BY: RMB
APPROVED BY: CJK
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 10+260 TO STA 10+440
L-26
SHEET 38 OF 80
NORTH
SCALE: 1" = 250'
ROCKY
CREEK
501-261-14
RODONI
OLD ARCATA RD
501-181-01
RODONI
OLD ARCATA RD
SECTION 16
SECTION 9
<P> ROW
RELOCATE POLE-REVISED
DAYLIGHT LINE
<P> EP
OS LINE
CP#51
OAR LINE
1+240
OLD ARCATA RD
'OS' 1+200.072 BC
N15°31'03"E
40.320'
10+360
<F> EP
'OS' 1+252.722 EC
OAR 10+346.155
RELOCATE POLE
10+377.942 BC
10+400
CP#104
CP#52
REPLACE <E> 300 RCP W/ 450mm RCP L=18.4m
10+438.989 EC
SEE SHEET L-25
MATCHLINE - STA 10+260 ('OS'1+166)
MATCHLINE - STA 10+440
SEE SHEET L-27
'OS' LINE
Δ=07°32'30"
R=400.000m
L=52.650m
T=26.363m
Δ=11°28'05"
R=305.000m
L=61.04/m
T=30.626m
REPLACE <E> 300 RCP W/ 450mm RCP L=27.2m
STA 10+483 C/L DRIVE W=3.0m ASPHALT
501-291-06
SCHNEIDER
3178 OLD ARCATA RD
501-291-03
HALVORSEN
3000 OLD ARCATA RD
501-291-02
ROSENDAHL
2990 OLD ARCATA RD
OLD ARCATA ROAD
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
140.000m VC
HIGH POINT ELEV = 5.802
HIGH POINT STA = 11+178.841
PVI STA = 11+178.741
PVI ELEV = 6.600
A.D. = 4.573
K = 30.615
EVCS: 11+218.741
EVCE: 4.324
-2.395%
EQN OAR 10+346.155
= OAR SCHNEIDER 'I' 252.722 PT
BVCS: 10+374
BVCE: 4.110
76.000m VC
LOW POINT ELEV = 3.595
LOW POINT STA = 10+417.010
PVI STA = 10+412
PVI ELEV = 3.200
A.D. = 4.23'
K = 17.963
5.86 5.796
5.83 5.797
5.80 5.764
5.75 5.698
5.67 5.590
4.59 4.498
4.45 4.335
5.23 5.108
4.97 4.879
4.70 4.614
4.56 4.443
3.69 3.673
3.8' 3.742
'OS'1+180
'OS'1+200
'OS'1+220
'OS'1+240
'10+400
+5% LT ETW
+4% RT ETW
AXIS OF ROTATION ABOUT "OAR LINE"
LT & RT ETW
OS 1+200.072 BC
'OS' 1+252.722 EC =
OAR 10+346.155
10+377.942 BC
10+438.989 EC
-5% RT ETW
-4% LT ETW
'OS'1+180
'OS'1+220
10+360
10+400
+6%
+4%
+2%
0%
-2%
-4%
-6%

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING / IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD	DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: F3K300 / KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD
	PROJECT NO.: RSTPL-5904(033) / EA NO.: 01 279634L	DRAWN BY: JAB	PLAN AND PROFILE STA 10+440 TO STA 10+620
	CONTRACT NO.: 980700 / PPNO: 01-2001R	REVIEWED BY: RWB	L-27
	DRAWING FILE NAME: C:\PROJECTS\980700\DWG\CDSN-L27.DWG	APPROVED BY: CJW	SHEET 39 OF 80
	PLOT DATE: 03/10/2008		

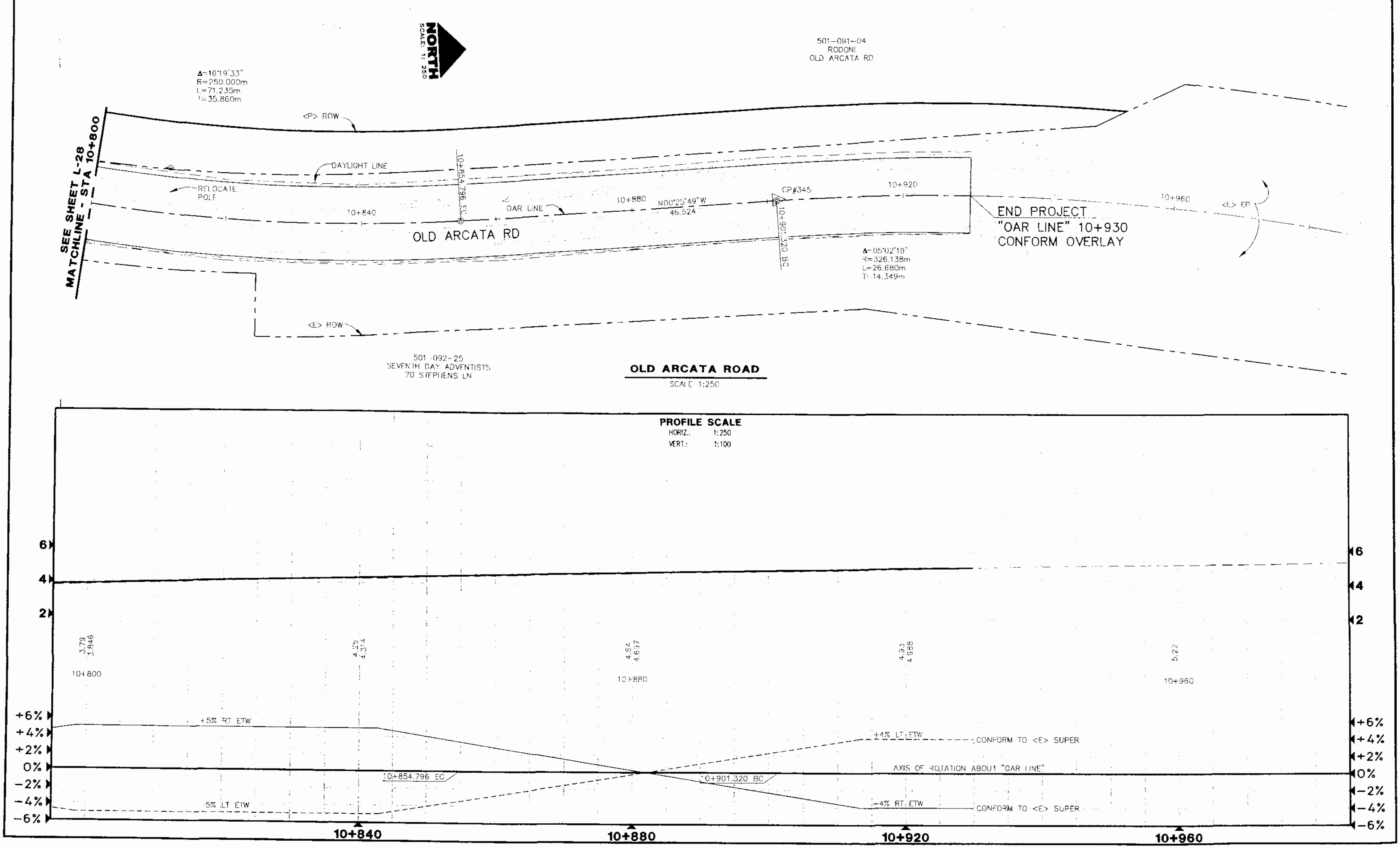



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: 73K300
KP (PM): 6.07-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279534
CONTRACT NO.: 960750
FUND: 01-230YR
DRAWING FILE NAME: I:\PROJECTS\950700\DWG\CDSN-L28.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION
R. W. BROKAW
DESIGNED BY: LAS
DRAWN BY: JAR
REVIEWED BY: RWB
APPROVED BY: CJH
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
PLAN AND PROFILE
STA 10+620 TO STA 10+800
L-28
SHEET 40 OF 80
NORTH
SCALE: 1" = 250'
ROCKY CREEK
501-181-01
RODONI
OLD ARCATA RD
TRIBUTARY TO ROCKY CREEK
SEE SHEET L-34 FOR CULVERT AND CHANNEL RECONSTRUCTION PLANS
Δ=03°24'43"
R=1000.000m
L=59.549m
T=29.783m
<P> ROW
1/4 SECTION LINE
SEE SHEET L-27
MATCHLINE - STA 10+620
MATCHLINE - STA 10+800
SEE SHEET L-29
RELOCATE POLE
DAYLIGHT LINE
DAR LINE
OLD ARCATA RD
10+640
10+680
10+720
10+760
N15°53'44"E
103.243
CP#54
<E> ROW
REDI-MOF <E> 300mm RCP WITH 450mm RCP L=16.1m PLACE NLET CONC FLARED END SECTION.
TEMPORARY CONSTRUCTION EASEMENT
501-291-04
SCHNEIDER
OLD ARCATA RD
501-291-17
MATTSON
2914 OLD ARCATA RD
501-291-15
HALVORSEN
2880 OLD ARCATA RD
OLD ARCATA ROAD
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
+6%
+4%
+2%
0%
-2%
-4%
-6%
+2% RT. ETW
-2% LT. ETW
AXIS OF ROTATION ABOUT "DAR LINE"
2% LT. & RT. ETW
10+680.318 EC
10+783.561 BC
10+640
10+680
10+720
10+760

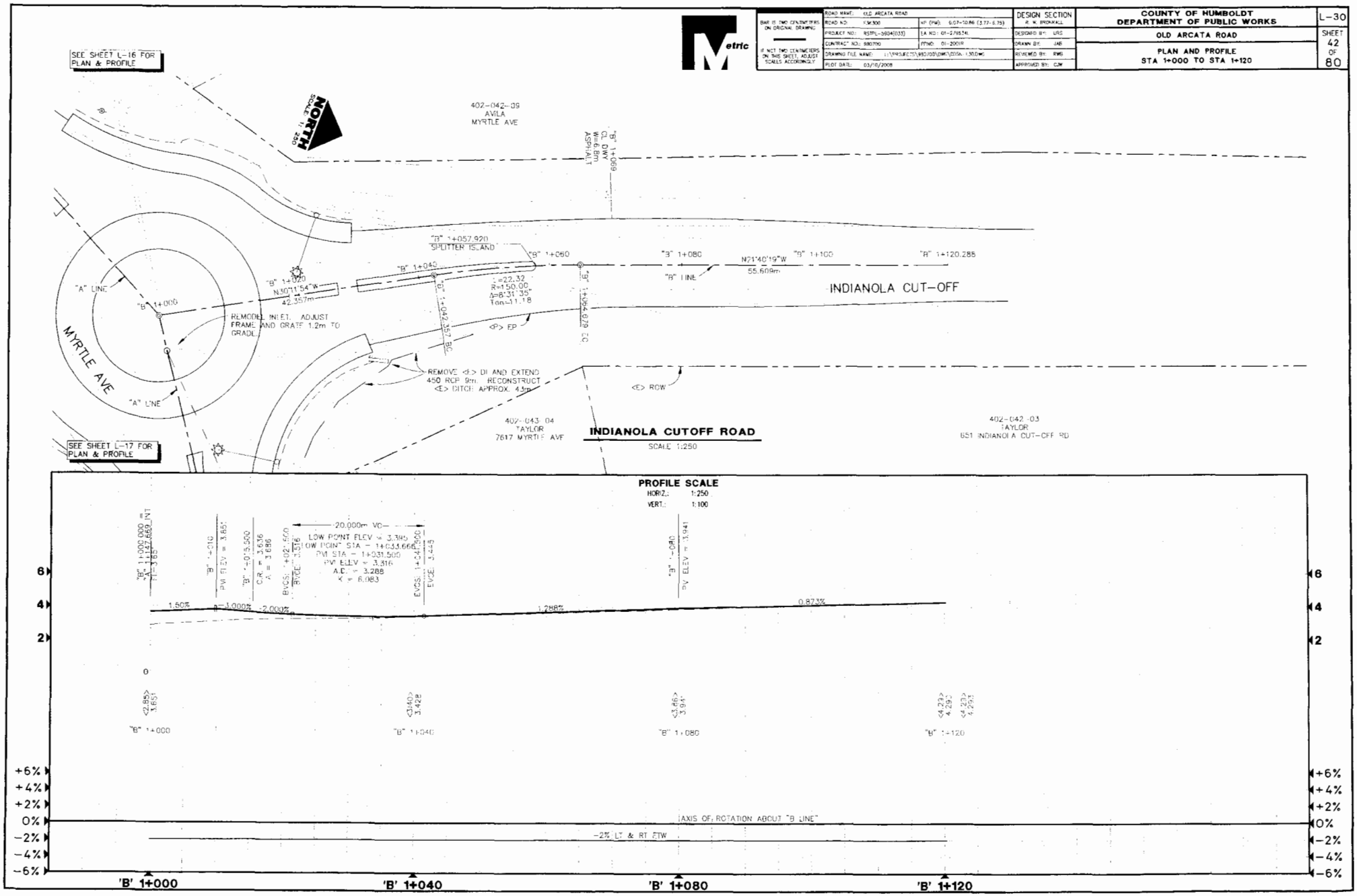
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: 5K300	KP (PM): 6.07-10.86 (3.77-6.75)		
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279534L	DESIGNED BY: URS	OLD ARCATA ROAD
	CONTRACT NO.: 980700	PPNO: 01-2001E	DRAWN BY: JAB	PLAN AND PROFILE STA 10+800 TO STA 10+980
	DRAWING FILE NAME: I:\PROJECTS\980700\DWG\CDSN-L29.DWG		REVIEWED BY: RWB	
	PLOT DATE: 03/10/2003		APPROVED BY: CJW	

L-29

SHEET 41 OF 80



NORTH
SCALE: 1: 250
501-091-04
RODONI
OLD ARCATA RD
Δ=16°19'33"
R=250.000m
L=71.235m
T=35.860m
<P> ROW
SEE SHEET L-28
MATCHLINE - STA 10+800
DAYLIGHT LINE
RELOCATE POLE
10+854.796 EC
10+840
OAR LINE
10+880
N00°25'49"W
46.524
OLD ARCATA RD
CP#345
10+901.320 BC
10+920
10+960
<E> EP
END PROJECT
"OAR LINE" 10+930
CONFORM OVERLAY
Δ=05°02'19"
R=326.138m
L=26.680m
T=14.349m
<E> ROW
501-092-25
SEVENTH DAY ADVENTISTS
70 STEPHENS LN
OLD ARCATA ROAD
SCALE 1:250
PROFILE SCALE
HORIZ.: 1:250
VERT.: 1:100
+5% RT ETW
5% LT ETW
+4% LT ETW
CONFORM TO <E> SUPER
AXIS OF ROTATION ABOUT "OAR LINE"
-4% RT ETW
CONFORM TO <E> SUPER
10+800
10+840
10+880
10+920
10+960

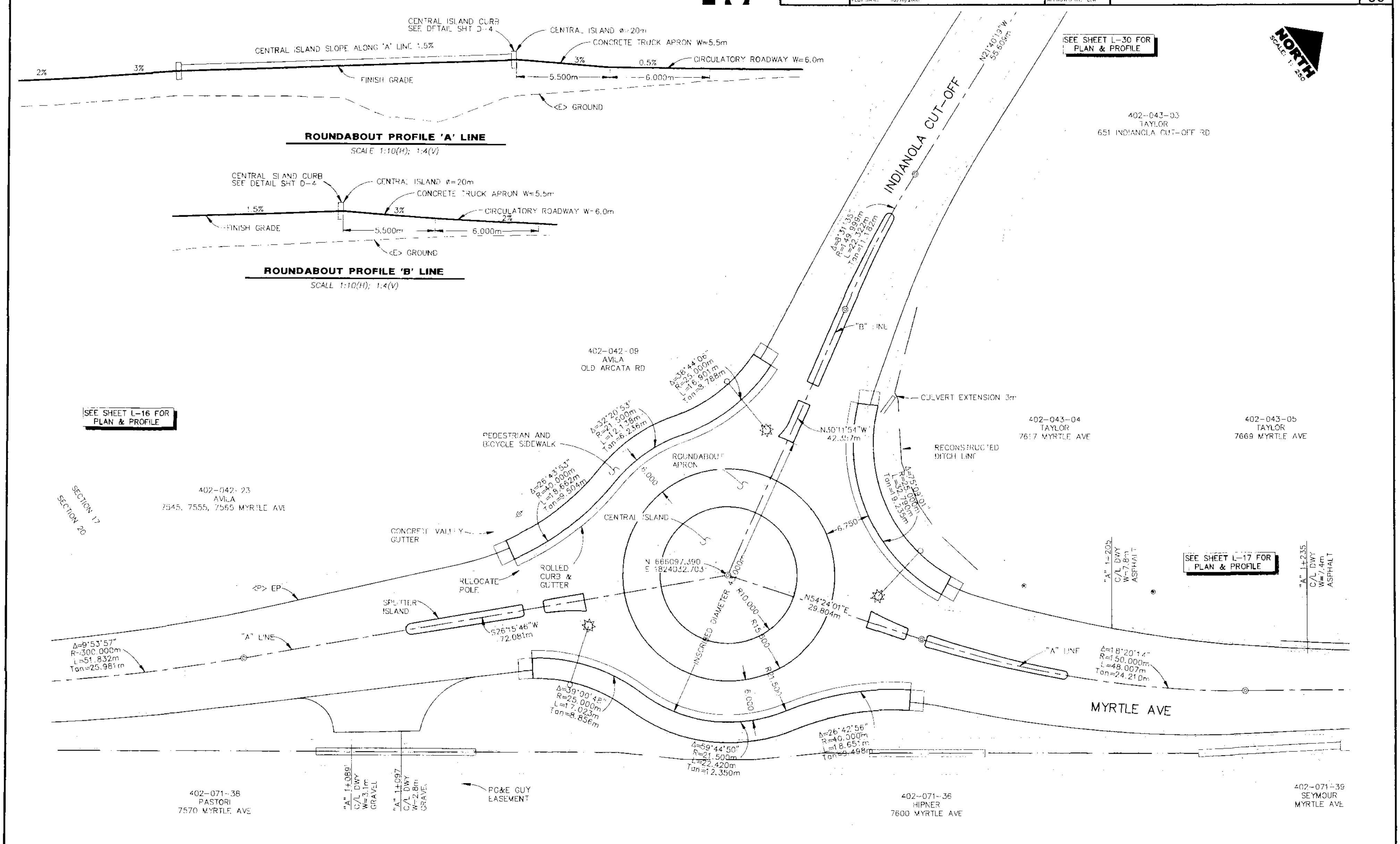


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. H. BROWALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-30
	ROAD NO: 1K300	KP (PM): 6.07-10.66 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 42 OF 80
	PROJECT NO.: RSTPL-5934(033)	EA NO.: 01-276514L	DRAWN BY: JAB		
	CONTRACT NO.: 880790	FFNO: 01-20019	REVIEWED BY: RMS	PLAN AND PROFILE STA 1+000 TO STA 1+120	
	DRAWING FILE NAME: I:\PROJECTS\880790\DWG\005A_130.DWG		APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING / IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: 5JK300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: JRS	OLD ARCATA ROAD
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-276634	DRAWN BY: JAD	INDIANOLA RD & MYRTLE AVE ROUNOABOUT DESIGN
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVISED BY: RWB	
	DRAWING FILE NAME: ..\PROJECTS\980700\DWG\CDSN-L31.DWG		APPROVED BY: CJW	
	PLOT DATE: 03/10/2008			

L-31

SHEET 43 OF 80



CENTRAL ISLAND CURB SEE DETAIL SHT D-4
CENTRAL ISLAND ø=20m
CONCRETE TRUCK APRON W=5.5m
CENTRAL ISLAND SLOPE ALONG 'A' LINE 1.5%
CIRCULATORY ROADWAY W=6.0m
FINISH GRADE
<E> GROUND
ROUNDABOUT PROFILE 'A' LINE
SCALE 1:10(H); 1:4(V)
ROUNDABOUT PROFILE 'B' LINE
SCALE 1:10(H); 1:4(V)
SEE SHEET L-30 FOR PLAN & PROFILE
SEE SHEET L-16 FOR PLAN & PROFILE
SEE SHEET L-17 FOR PLAN & PROFILE
NORTH
SCALE: 1: 250
INDIANOLA CUT-OFF
MYRTLE AVE
402-043-03 TAYLOR 651 INDIANOLA CUT-OFF RD
402-042-09 AVILA OLD ARCATA RD
402-043-04 TAYLOR 7617 MYRTLE AVE
402-043-05 TAYLOR 7669 MYRTLE AVE
402-042-23 AVILA 7545, 7555, 7565 MYRTLE AVE
402-071-38 PASTORI 7570 MYRTLE AVE
402-071-36 HIPNER 7600 MYRTLE AVE
402-071-39 SEYMOUR MYRTLE AVE
SECTION 17
SECTION 20
PEDESTRIAN AND BICYCLE SIDEWALK
ROUNDABOUT APRON
CENTRAL ISLAND
CONCRETE VALLEY GUTTER
ROLLED CURB & GUTTER
RELOCATE POLE
SPLITTER ISLAND
CULVERT EXTENSION 3m
RECONSTRUCTED DITCH LINE
PG&E GUY EASEMENT
INSCRIBED DIAMETER 41.000
N 666097.390
E 1824032.703
N30°11'54"W 42.357m
N54°24'01"E 29.804m
S76°15'46"W 72.081m
N21°40'13"W 55.609m
"A" LINE
"B" LINE
<P> EP
"A" 1+205 C/L DWY W=7.8m ASPHALT
"A" 1+235 C/L DWY W=7.4m ASPHALT
"A" 1+089 C/L DWY W=3.1m GRAVEL
"A" 1+097 C/L DWY W=2.8m GRAVEL

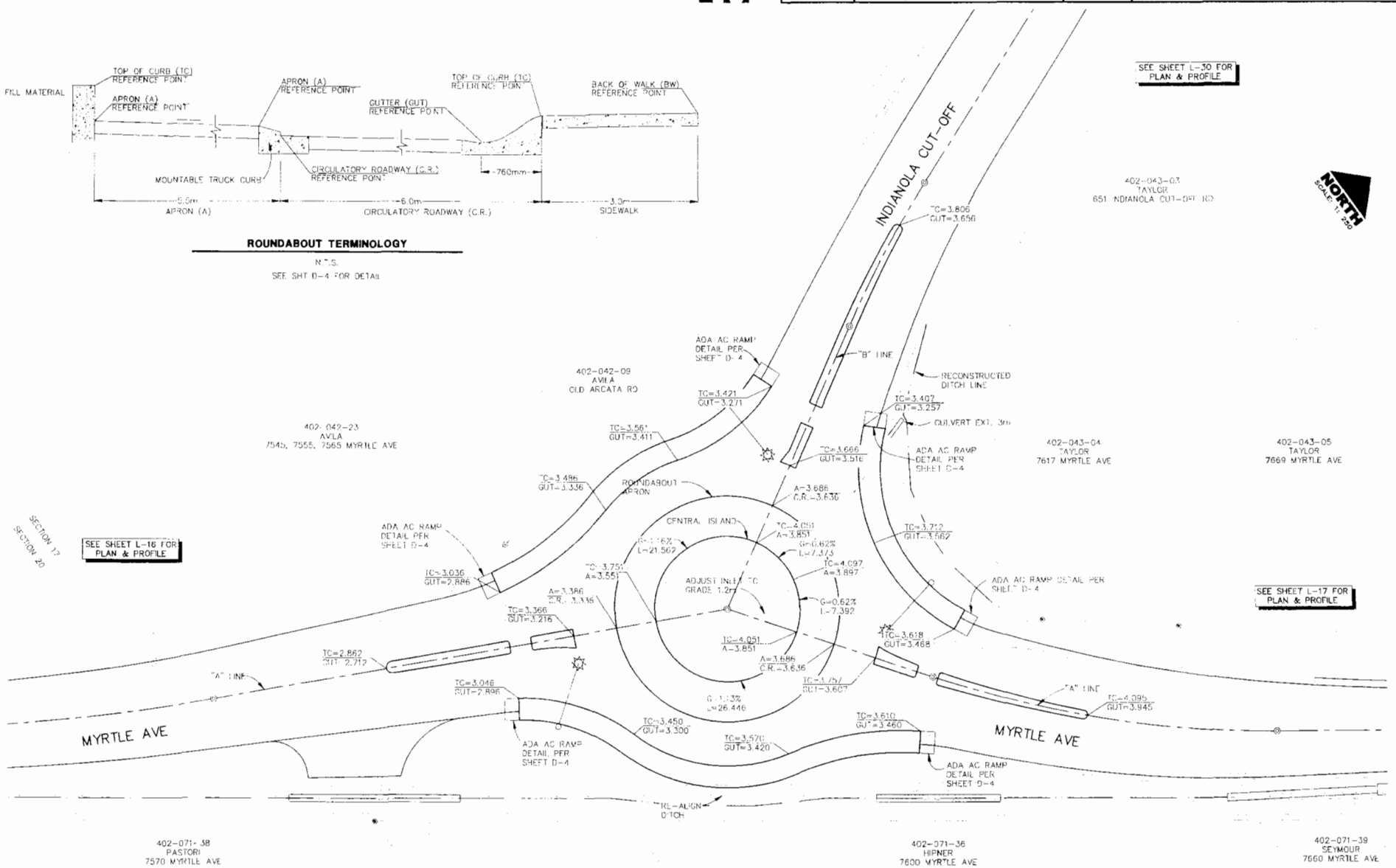
Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD			DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-32
	ROAD NO: 136300	KP (PM): 6.07 10.86 (3.77-6.75)		DESIGNED BY: RWS	OLD ARCATA ROAD	SHEET 44 OF 80
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	PROJECT NO.: RSPL-5904(033)	EA NO.: 01-279634		DRAWN BY: JAB	INDIANOLA RD & MYRTLE AVE ROUNDABOUT DESIGN – GRADING PLAN	
	CONTRACT NO.: 980700	PPNO: 01-2001R		REVIEWED BY: RWS		
	DRAWING FILE NAME: L:\PROJECTS\983703\DWG\DSN-L32.DWG			APPROVED BY: CJM		
	PLOT DATE: 03/10/2008					

ROUNDABOUT TERMINOLOGY

N.T.S.

SEE SHT D-4 FOR DETAIL



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING / IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634	DRAWN BY: JAB
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB
	DRAWING FILE NAME: ...\PROJECTS\980700\DWG\CDSN-L33.DWG		APPROVED BY: CJW
	PLOT DATE: 03/10/2008		

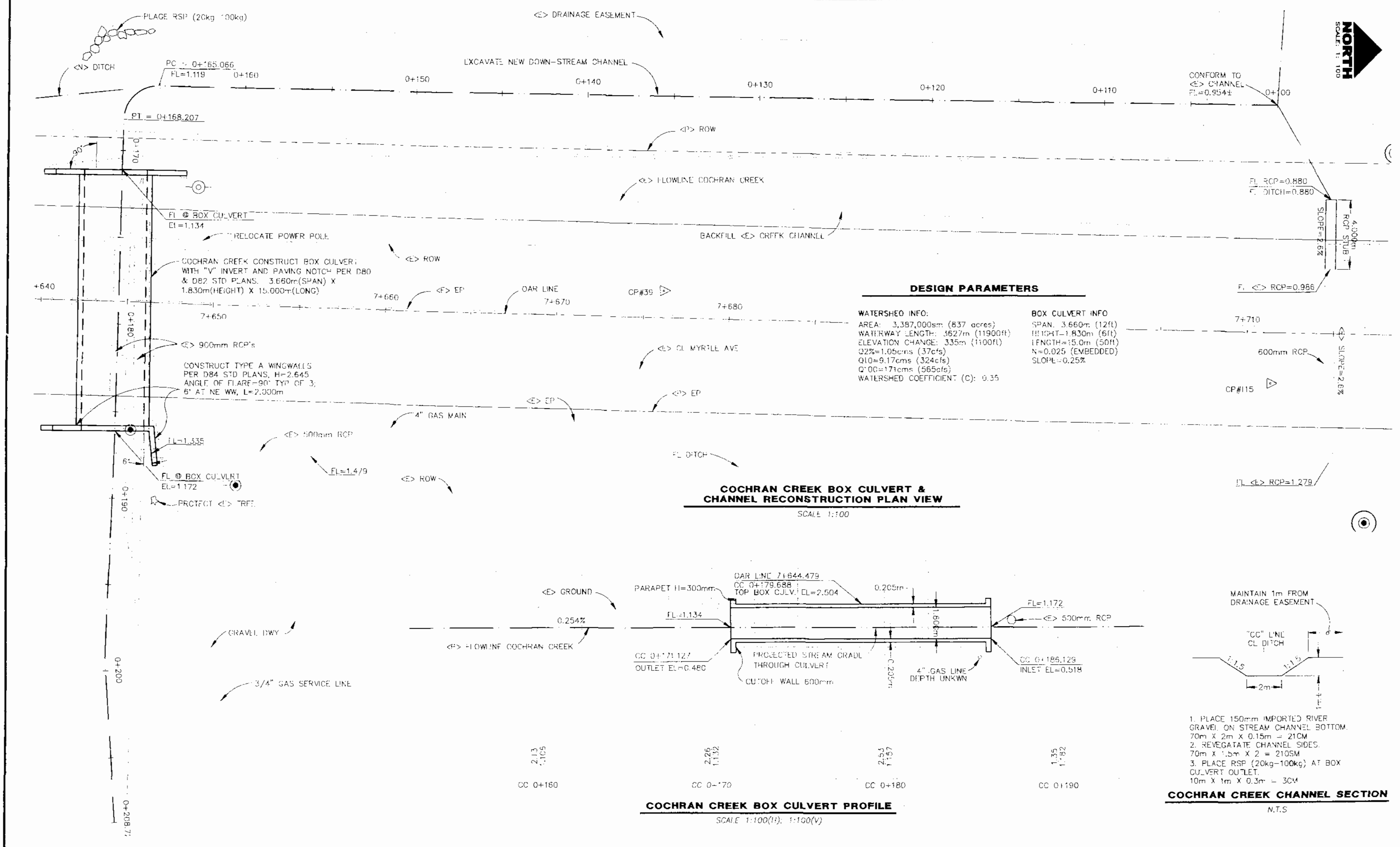
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

OLD ARCATA ROAD

COCHRAN CREEK CULVERT REPLACEMENT

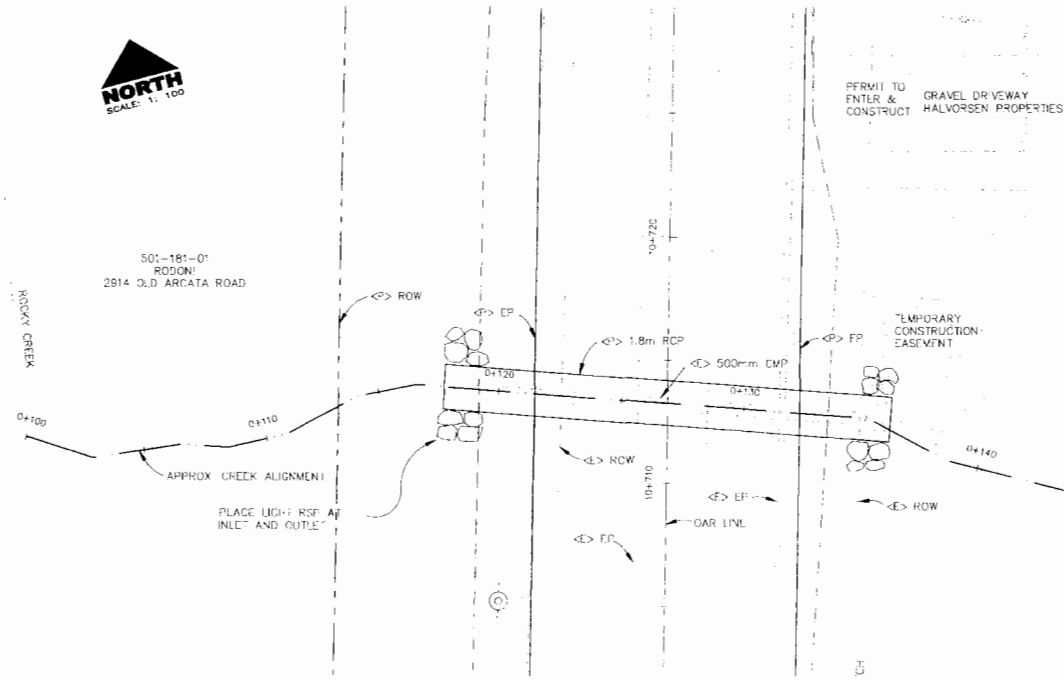
L-33

SHEET 45 OF 80

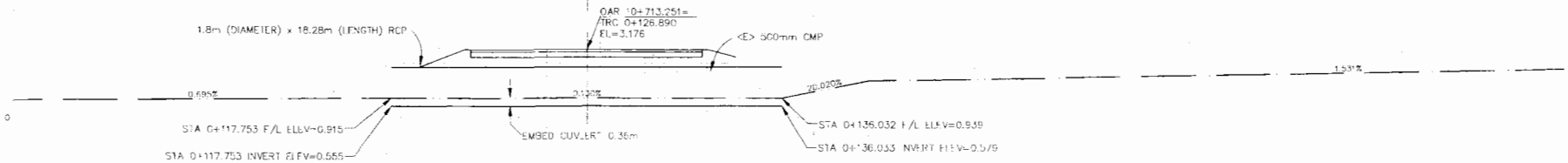


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. PROVOST	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	L-34
	ROAD NO.: 134300	KP (PM): 9.07-10.86 (5.72-6.75)	DESIGNED BY: UBS	OLD ARCATA ROAD	SHEET 46 OF 80
	PROJECT NO.: BRSPL-5904(033)	EA NO.: 01-279534	DRAWN BY: JAR		
	CONTRACT NO.: 980730	PPNO: 01-200HR	REVIEWED BY: RWB	TRIBUTARY TO ROCKY CREEK CULVERT REPLACEMENT	
	DRAWING FILE NAME: L:\PROJECTS\980706\DWG\CDSH-134.DWG		APPROVED BY: CJM		
	PLOT DATE: 03/10/2008				

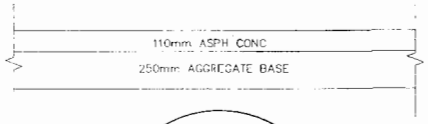
NORTH
SCALE: 1: 100



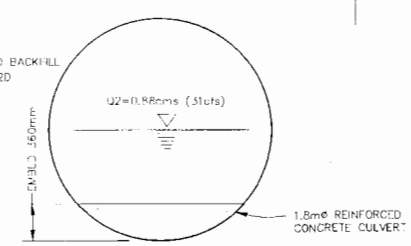
TRIBUTARY TO ROCKY CREEK
PLAN VIEW
SCALE 1:100



TRIBUTARY TO ROCKY CREEK PROFILE
SCALE 1:100(H); 1:100(V)



STRUCTURE EXC AND BACKFILL PER STD PLAN A-62D



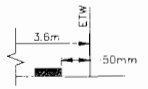
CULVERT DETAIL
SCALE 1:20

DESIGN PARAMETERS

WATERSHED INFO:
AREA: 560,000sm (138 acres)
WATERWAY LENGTH: 1768m (5800ft)
ELEVATION CHANGE: 162m (530ft)
Q2%=0.17cms (6cfs)
Q10=0.88cms (31cfs)
Q100=2.80cms (98cfs)
WATERSHED COEFFICIENT (C): 0.35

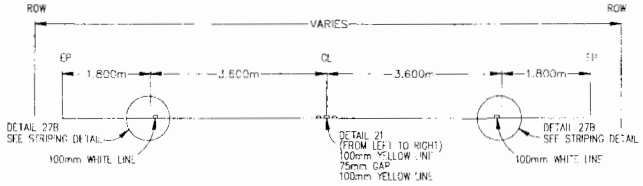
CULVERT INFO
DIA=1.8m (6'ft)
LENGTH=18.28m (60ft)
N=0.015
SLOPE=0.13%

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION V. W. BRONKAL...	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	S-01
	ROAD NO: 1-96300	KP (PM): 6.07-10.85 (3.77-6.75)			
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-276534L	DESIGNED BY: DRS	OLD ARCATA ROAD	SHEET 47 OF 80
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	CONTRACT NO.: 983700	PPNO: 01-2001K	DRAWN BY: JAB		
	DRAWING FILE NAME: L:\PROJECTS\983700\DWG\DSN-SCI.DWG		REVISED BY: RWB	OLD ARCATA ROAD & MYRTLE AVE SIGN & STRIPING DETAILS	
	PLOT DATE: 03/10/2008		APPROVED BY: DJW		



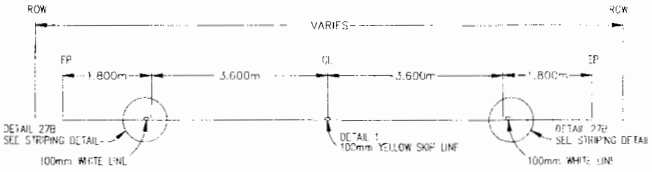
STRIPING DETAIL

N.T.S.



TYPICAL STRIPING SECTION

SCALE: 1:50



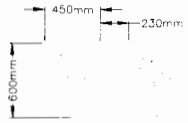
TYPICAL STRIPING SECTION

SCALE: 1:50

STA 7+400 TO STA 7+800

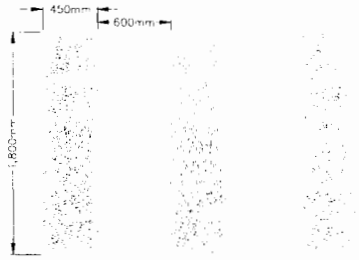
LANE LINE EXTENSION THROUGH INTERSECTION

SCALE 1:100



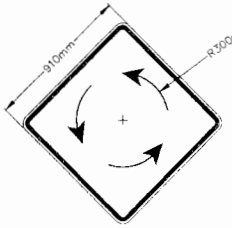
ROUNDABOUT STRIPING SHARK TOOTH YIELD LINE

SCALE 1:50



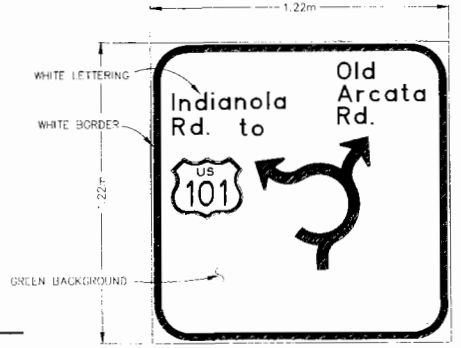
ROUNDABOUT STRIPING CROSS WALK

SCALE 1:50



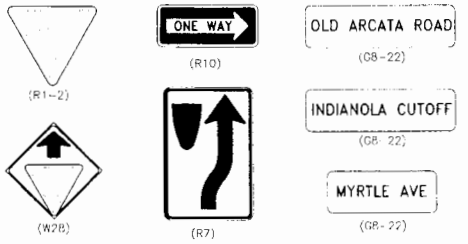
SPECIAL ROUNDABOUT WARNING SIGN

N.T.S.



G20-SPECIAL ROUNDABOUT SIGN

N.T.S.



SIGN & SIGN TYPE DESIGNATION

N.T.S.

PAVEMENT MARKINGS

MARKING	UNIT AREA m^2	TOTAL
STOP		
YIELD	2.23	9.7
SHARK TEETH	0.14	3.6
CROSS WALKS	0.81	24.3
LANE EXTENSION	0.27	4.1
STOP BAR	0.3 X L	19.2
SEMICIRCLES	VAR	4.6
35 MPH	1.42	2.8
45 MPH	1.81	10.9
		79.2

STOP BAR MARKINGS

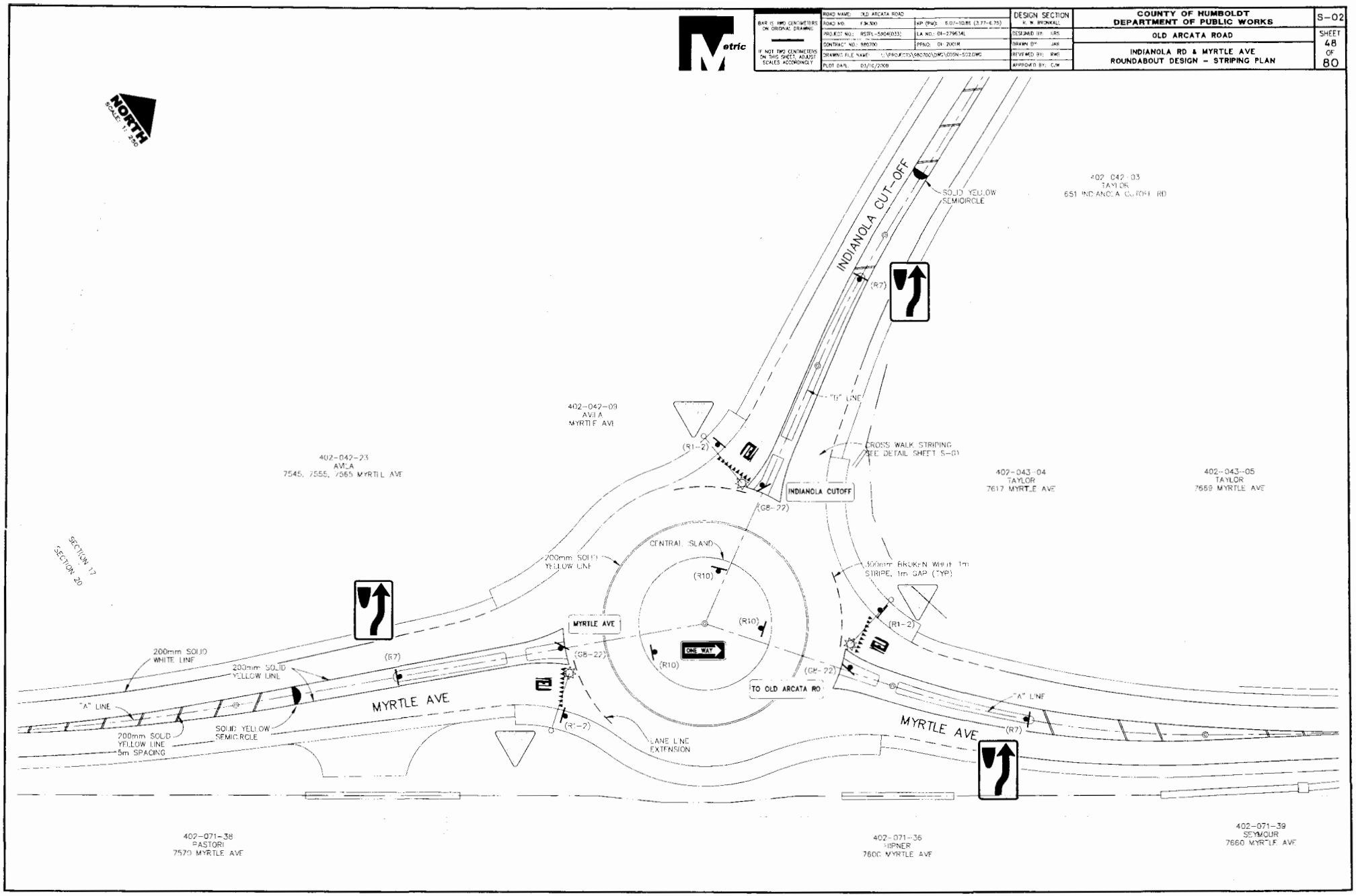
STREET	LENGTH(m)
REDMOND RD	3.0
QUAIL VALLEY (PVT)	3.0
OLE HANSEN RD	4.0
OLD INDIANOLA RD	10.0
NEWELL LN (PVT)	4.0
BLUE BLOSSOM LN (PVT)	4.0
POMEROY HOLLOW (PVT)	4.0
MOBILE HOME PARK #1 (PVT)	4.0
MOBILE HOME PARK #2 (PVT)	4.0
MOBILE HOME PARK #3 (PVT)	4.0
LILY LANE (PVT)	4.0
LORENZ LANE (PVT)	4.0
VITUS LN (PVT)	4.0
ROCKY CREEK RD (PVT)	4.0
HALVORSEN CREEK RD (PVT)	4.0

THERMOPLASTIC SUMMARY TABLES

N.T.S.

SIGN SUMMARY

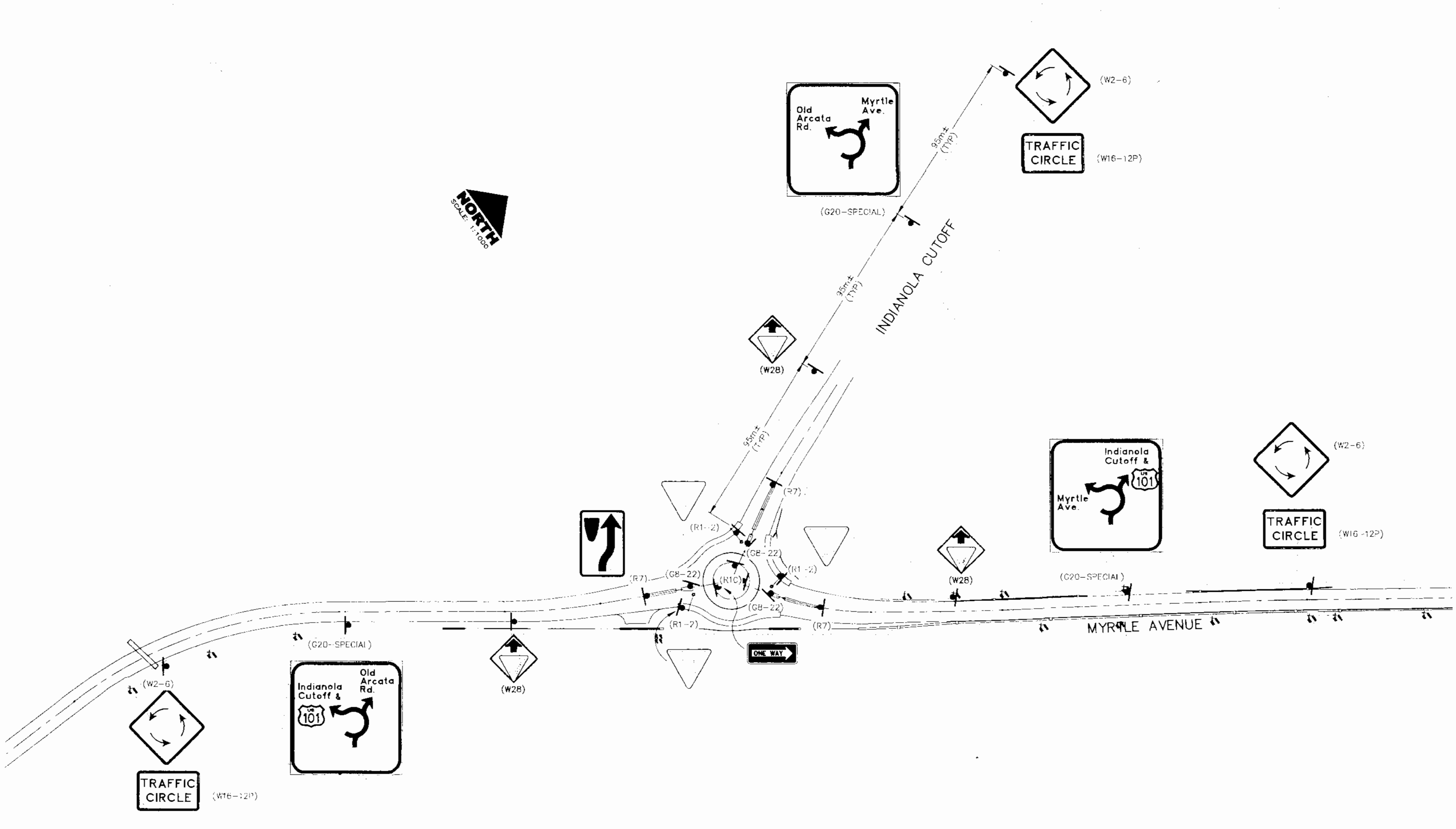
SIGN TYPE	QTY	DESCRIPTION	SIZE	POST SIZE	NUMBER OF POSTS
R1-2	3	YIELD	910 x 910 x 910mm	100 x 100mm	1
R7	3	KEEP RIGHT	610 x 910mm	100 x 100mm	1
R10	3	ONE WAY	1220 x 410mm	100 x 100mm	1
W28	3	YIELD AHEAD	910 x 910mm (STD)	100 x 100mm	1
G20-SPECIAL	3	GUIDE SIGN	1220 x 1220mm	100 x 100mm	2
W-6	3	25 MPH	760 x 760mm	100 x 100mm	1
G8-22	3	STREET SIGN	460 x VARmm	100 x 100mm	1
W2-6	3	ROUNDABOUT AHEAD	910 x 910mm	100 x 100mm	1

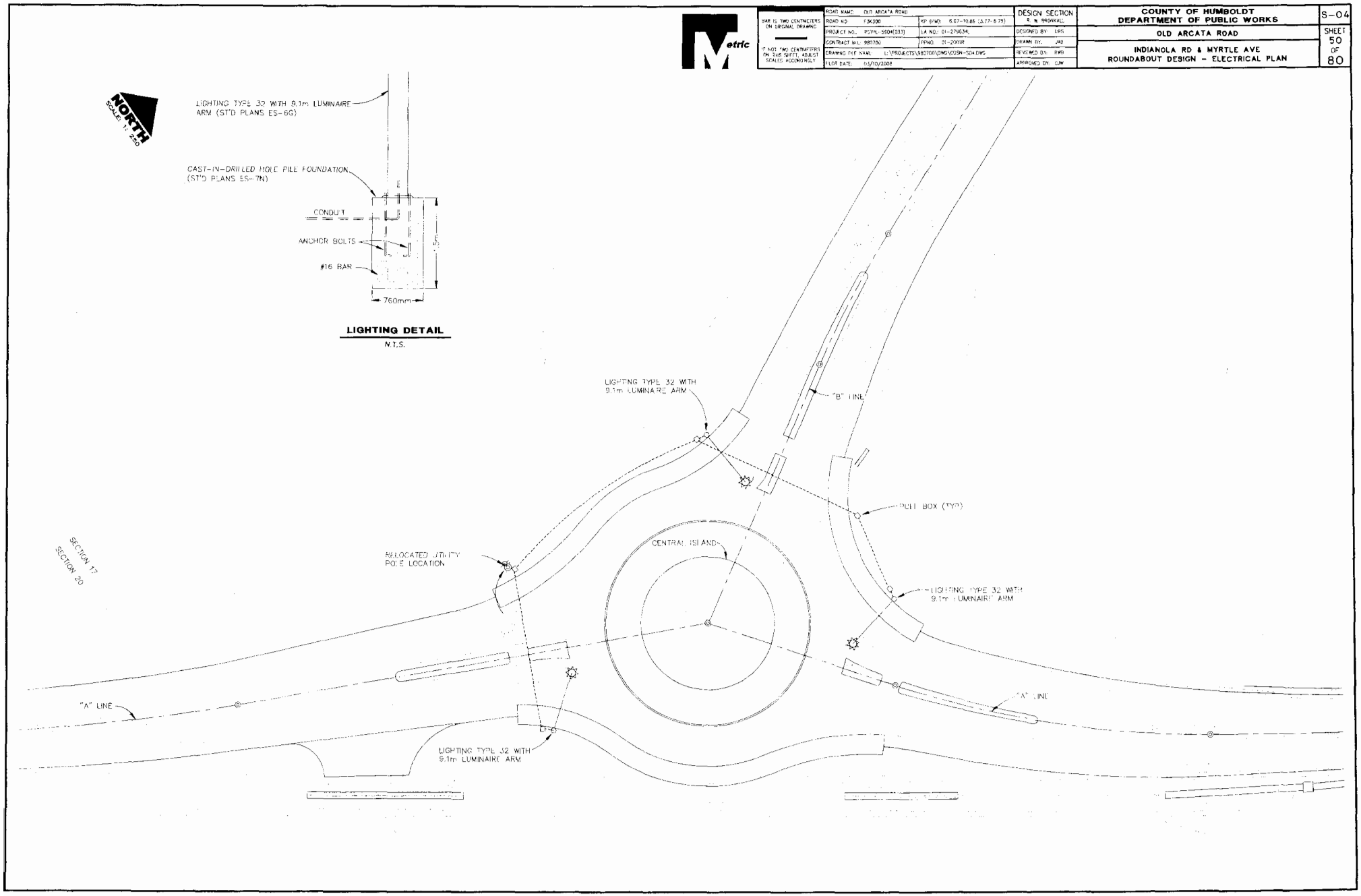

Metric
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY
ROAD NAME: OLD ARCATA ROAD
ROAD NO: # 3K300
KP (PM): 5.07-10.85 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)
EA NO.: 01-279634L
CONTRACT NO.: 980700
PPNO: 01-2001M
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\DSN-S02.DWG
PLOT DATE: 03/10/2008
DESIGN SECTION
K. W. BRONKALL
DESIGNED BY: IRS
DRAWN BY: JAR
REVIEWED BY: RWI
APPROVED BY: CW
COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
OLD ARCATA ROAD
INDIANOLA RD & MYRTLE AVE
ROUNDABOUT DESIGN – STRIPING PLAN
S-02
SHEET 48 OF 80
NORTH
SCALE: 1" = 25'
INDIANOLA CUT-OFF
SOLID YELLOW SEMICIRCLE
402-042-03
TAYLOR
651 INDIANOLA CUTOFF RD
"D" LINE
402-042-09
AVILA
MYRTLE AVE
(R1-2)
CROSS WALK STRIPING SEE DETAIL SHEET S-01
402-042-23
AVILA
7545, 7555, 7565 MYRTLE AVE
INDIANOLA CUTOFF
(G8-22)
402-043-04
TAYLOR
7617 MYRTLE AVE
402-043-05
TAYLOR
7669 MYRTLE AVE
SECTION 17
SECTION 20
CENTRAL ISLAND
200mm SOLID YELLOW LINE
(R10)
500mm BROKEN WHITE 1m STRIPE, 1m GAP (TYP)
MYRTLE AVE
ONE WAY
(R7)
200mm SOLID WHITE LINE
200mm SOLID YELLOW LINE
"A" LINE
200mm SOLID YELLOW LINE 5m SPACING
SOLID YELLOW SEMICIRCLE
MYRTLE AVE
LANE LINE EXTENSION
TO OLD ARCATA RD
"A" LINE
MYRTLE AVE
402-071-38
PASTORI
7570 MYRTLE AVE
402-071-36
HIPNER
7600 MYRTLE AVE
402-071-39
SEYMOUR
7660 MYRTLE AVE

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)		
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-273634	DESIGNED BY: URS	OLD ARCATA ROAD
	CONTRACT NO.: 980700	PPNO: 01-2001R	DRAWN BY: JA9	
	DRAWING FILE NAME: ...\PROJECTS\980700\DWG\CDSN-S03.DWG		REVIEWED BY: RWB	INDIANOLA RD & MYRTLE AVE SIGN PLAN
	PLOT DATE: 03/10/2008		APPROVED BY: CJW	

S-03

SHEET 49 OF 80

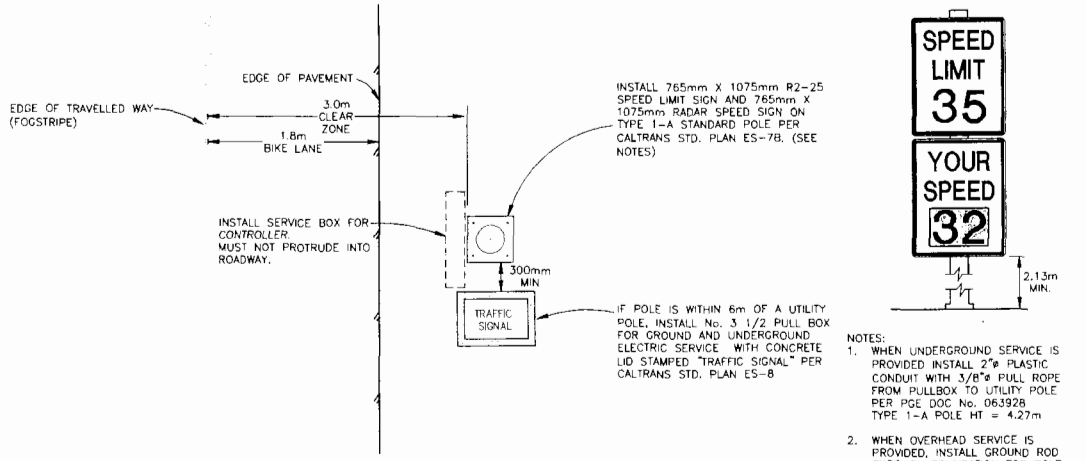




BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO.: 53K300	KP (PM): 6.07–10.86 (3.77–6.75)		OLD ARCATA ROAD
	PROJECT NO.: #01HL-5904(333)	LA NO.: 01-279034L	DESIGNED BY: DRS	INDIANOLA RD & MYRTLE AVE ROUNDABOUT DESIGN – ELECTRICAL PLAN
	CONTRACT NO.: 980700	PPNO: 01-2005R	DRAWN BY: JAB	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\COSN-S04.DWG		REVIEWED BY: RWB	
	PLOT DATE: 05/10/2008		APPROVED BY: DJW	

S-04
SHEET 50 OF 80

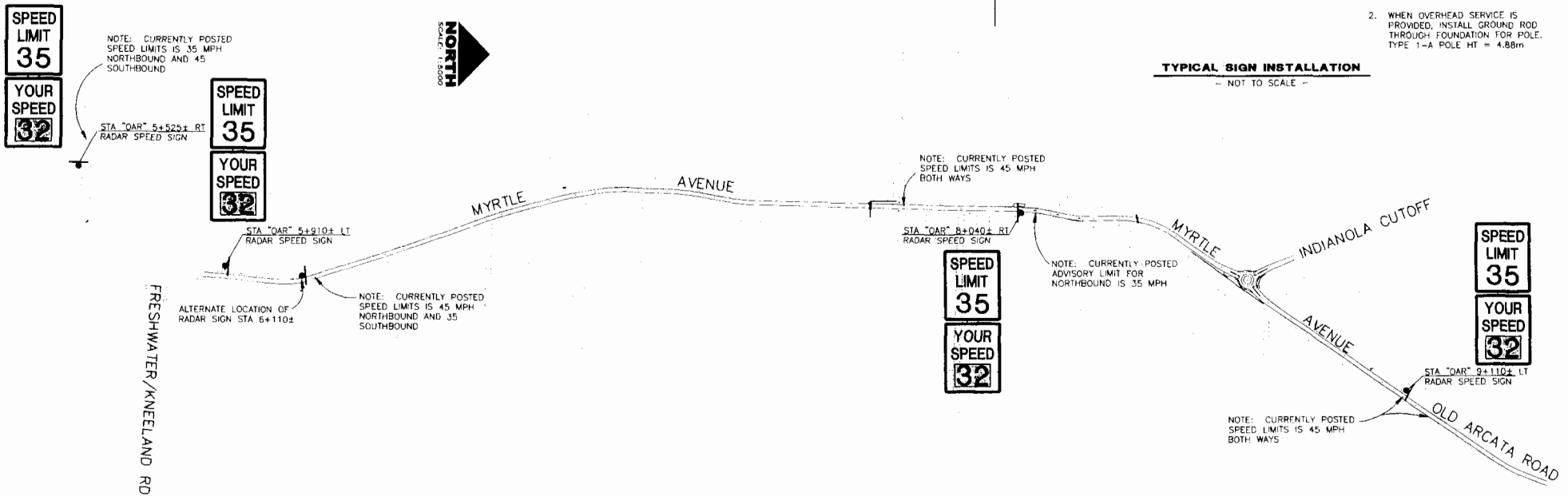
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	S-05
	ROAD NO: 139300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: JRS	OLD ARCATA ROAD	SHEET 51 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634L	DRAWN BY: JAB		
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB	RADAR SPEED SIGN PLAN	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSA_S05.DWG		APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				



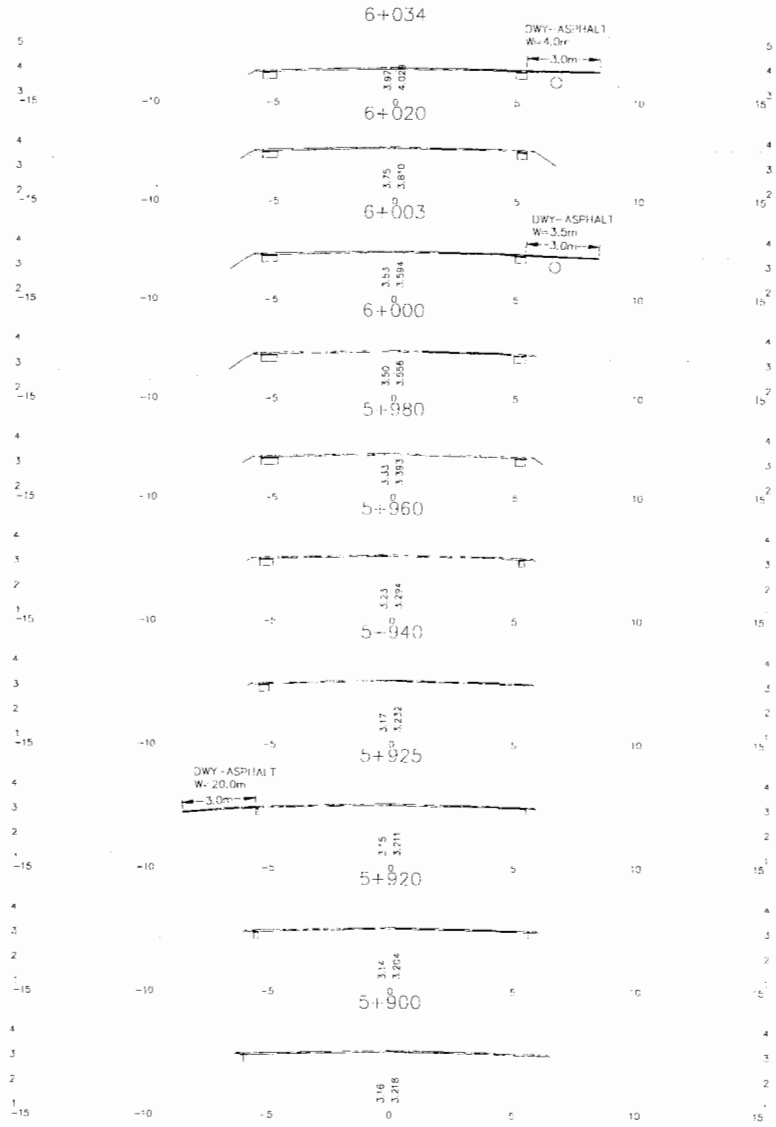
NOTES:
1. WHEN UNDERGROUND SERVICE IS PROVIDED INSTALL 2"ø PLASTIC CONDUIT WITH 3/8"ø PULL ROPE FROM PULLBOX TO UTILITY POLE PER PGE DOC No. 063928 TYPE 1-A POLE HT = 4.27m
2. WHEN OVERHEAD SERVICE IS PROVIDED, INSTALL GROUND ROD THROUGH FOUNDATION FOR POLE. TYPE 1-A POLE HT = 4.88m

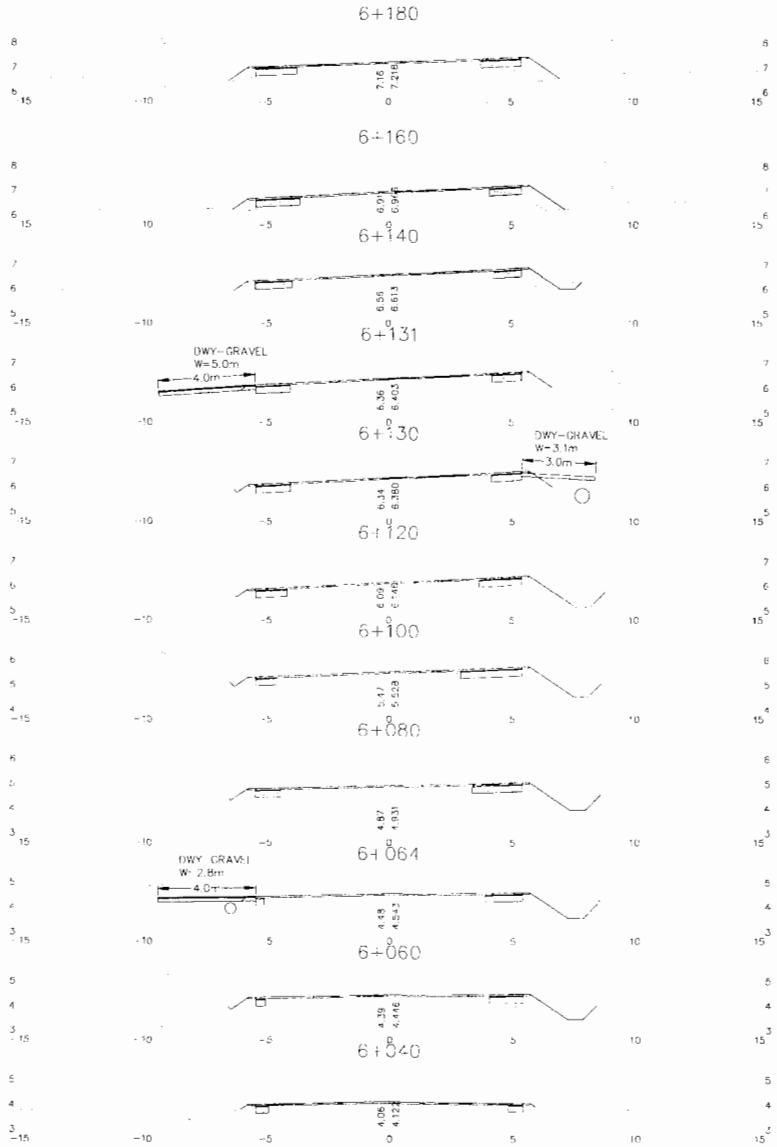
TYPICAL SIGN INSTALLATION
– NOT TO SCALE –

NORTH
SCALE: 1:5000



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROWCAU	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-1
	ROAD NO: F.M.501	KP (PM): 5.07–10.85 (3.77–6.75)		OLD ARCATA ROAD	SHEET 52 OF 80
	PROJECT NO.: RSTPL–5904(033)	EA NO.: 01–270614K	DESIGNED BY: KRS		
	CONTRACT NO.: 980700	PPNO: 01–2001R	DRAWN BY: JAS	CROSS SECTIONS – REACH 1 STA 5+900 TO 6+180	
	DRAWING FILE NAME: L:\PROJECTS\660700\DWG\CDSA–X1.DWG		REVIEWED BY: RWB		
	PLOT DATE: 03/10/2008		APPROVED BY: DCW		





SCALE
1:100 HORIZONTAL
1:100 VERTICAL

Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME: OLD ARCATA ROAD			
ROAD NO: FAS300	KP (PM): 6.07–10.86 (3.77–6.75)		
PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279534		
CONTRACT NO.: 980700	PPNO: 01-2001R		
DRAWING FILE NAME:	::\PROJECTS\980700\DWG\CDSA-X2.DWG		
PLOT DATE: 03/10/2008			

DESIGN SECTION
R. W. BRONKALL
DESIGNED BY: BRS
DRAWN BY: JAR
REVIEWED BY: RWB
APPROVED BY: CJW

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

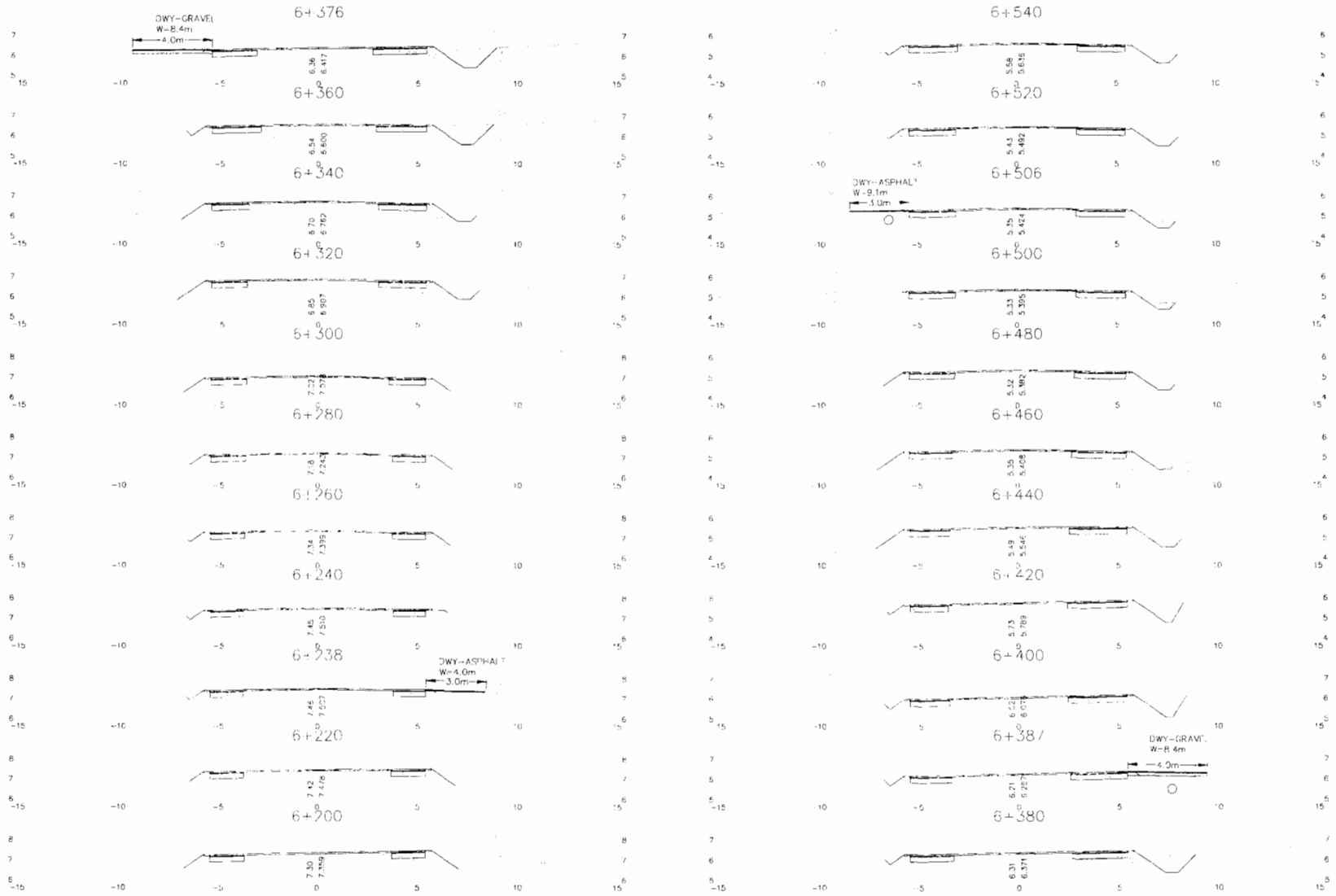
OLD ARCATA ROAD

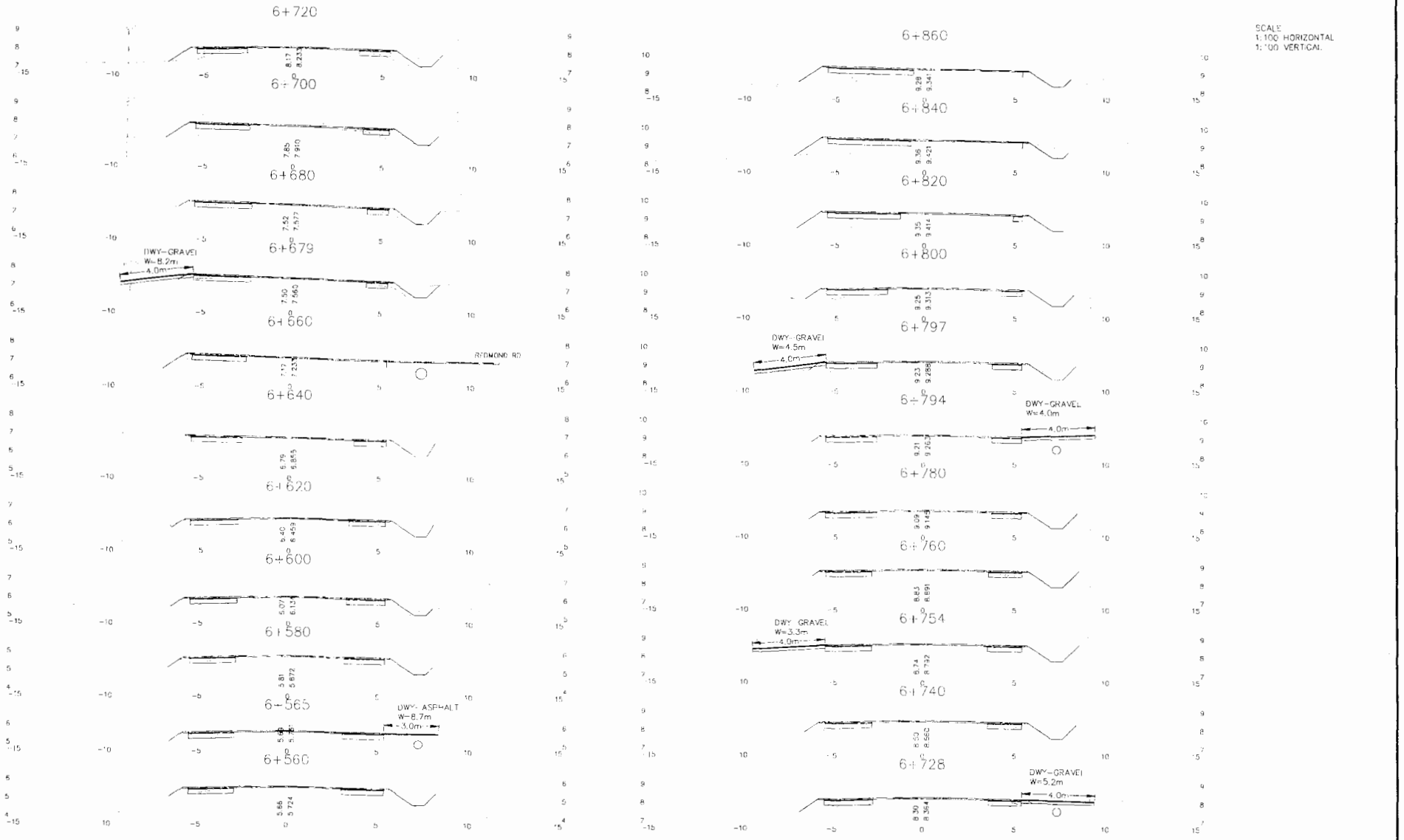
CROSS SECTIONS – REACH 2
STA 6+200 TO 6+540

X-2

SHEET 53 OF 80

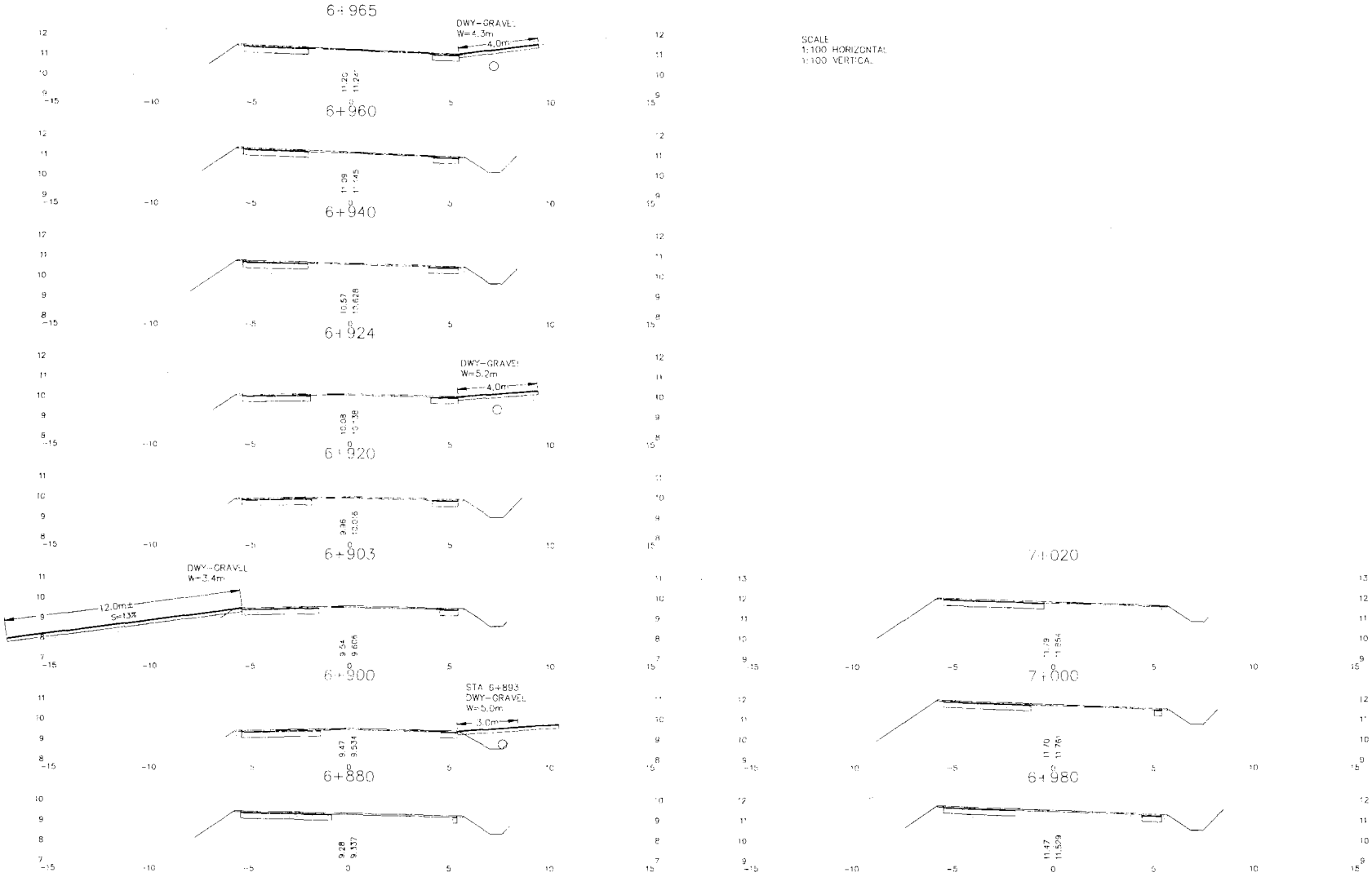
SCALE
1:100 HORIZONTAL
1:100 VERTICAL



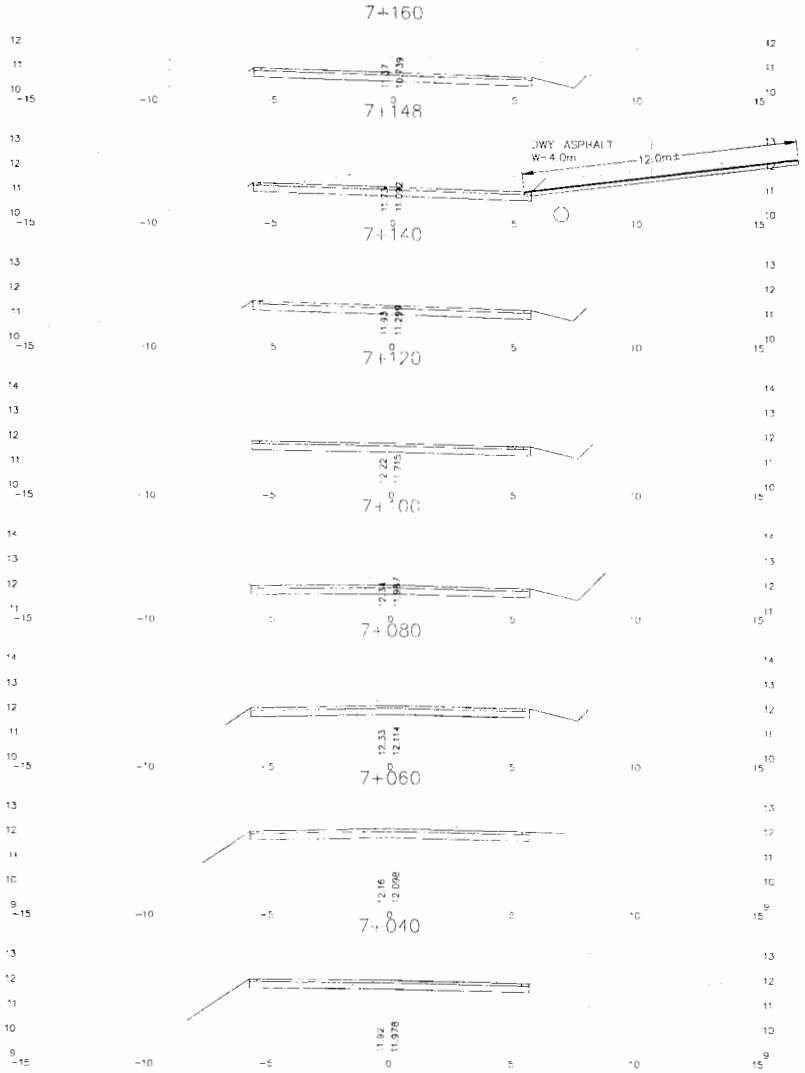

6+720
6+700
6+680
6+679
DWY-GRAVEL
W=8.2m
4.0m
6+660
REDMOND RD
6+640
6+620
6+600
6+580
6+565
DWY- ASPHALT
W=8.7m
3.0m
6+560
6+860
6+840
6+820
6+800
6+797
DWY-GRAVEL
W=4.5m
4.0m
6+794
DWY-GRAVEL
W=4.0m
4.0m
6+780
6+760
6+754
DWY-GRAVEL
W=3.3m
4.0m
6+740
6+728
DWY-GRAVEL
W=5.2m
4.0m

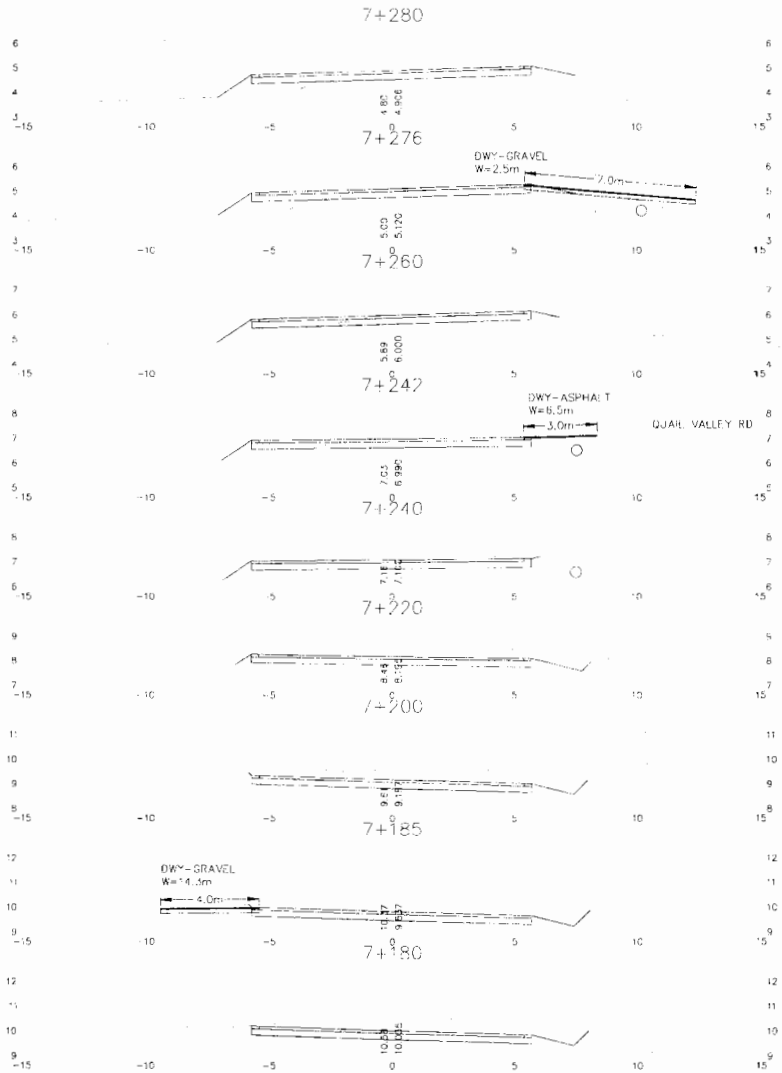
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-4
	ROAD NO.: F3K300	KP (PM): 5.07–10.80 (3.77–6.75)		OLD ARCATA ROAD	SHEET 55 OF 80
	PROJECT NO.: RSTPL-5974(033)	EA NO.: 01-279634	DESIGNED BY: LRS		
	CONTRACT NO.: 990700	PPNO: 01-2001K	DRAWN BY: JAR	CROSS SECTIONS – REACH 1 STA 6+903 TO 7+020	
	DRAWING REF. NAME: L:\PROJECTS\990700\DWG\CCSH-X4.DWG		REVISED BY: RWB		
	PLOT DATE: 03/10/2008		APPROVED BY: CJM		

SCALE
1:100 HORIZONTAL
1:100 VERTICAL



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROKKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-5
	ROAD NO: 1N300	KP (PM): 6.67-10.85 (3.77-6.75)			
	PROJECT NO.: 9ST1-1904(031)	EA NO.: 01-279634K	DESIGNED BY: LRS	OLD ARCATA ROAD	SHEET 56 OF 80
	CONTRACT NO.: 980700	PPNO: 01-2001A	DRAWN BY: JAB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CSSH-XS.DWG		CHECKED BY: RMB	CROSS SECTIONS - REACH 2 STA 7+040 TO 7+280	
	PLOT DATE: 03/10/2008		APPROVED BY: CJW		





Metric

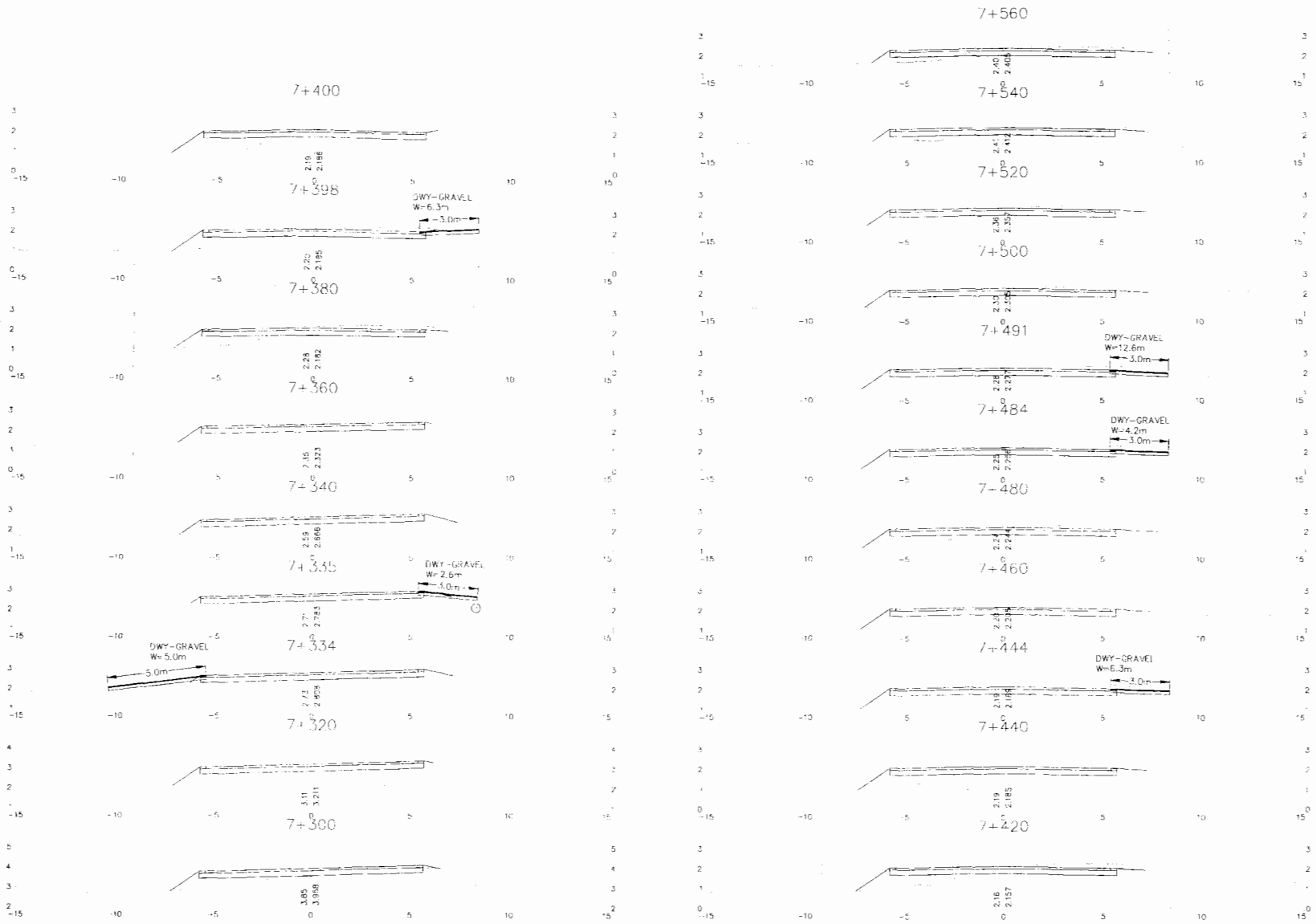
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

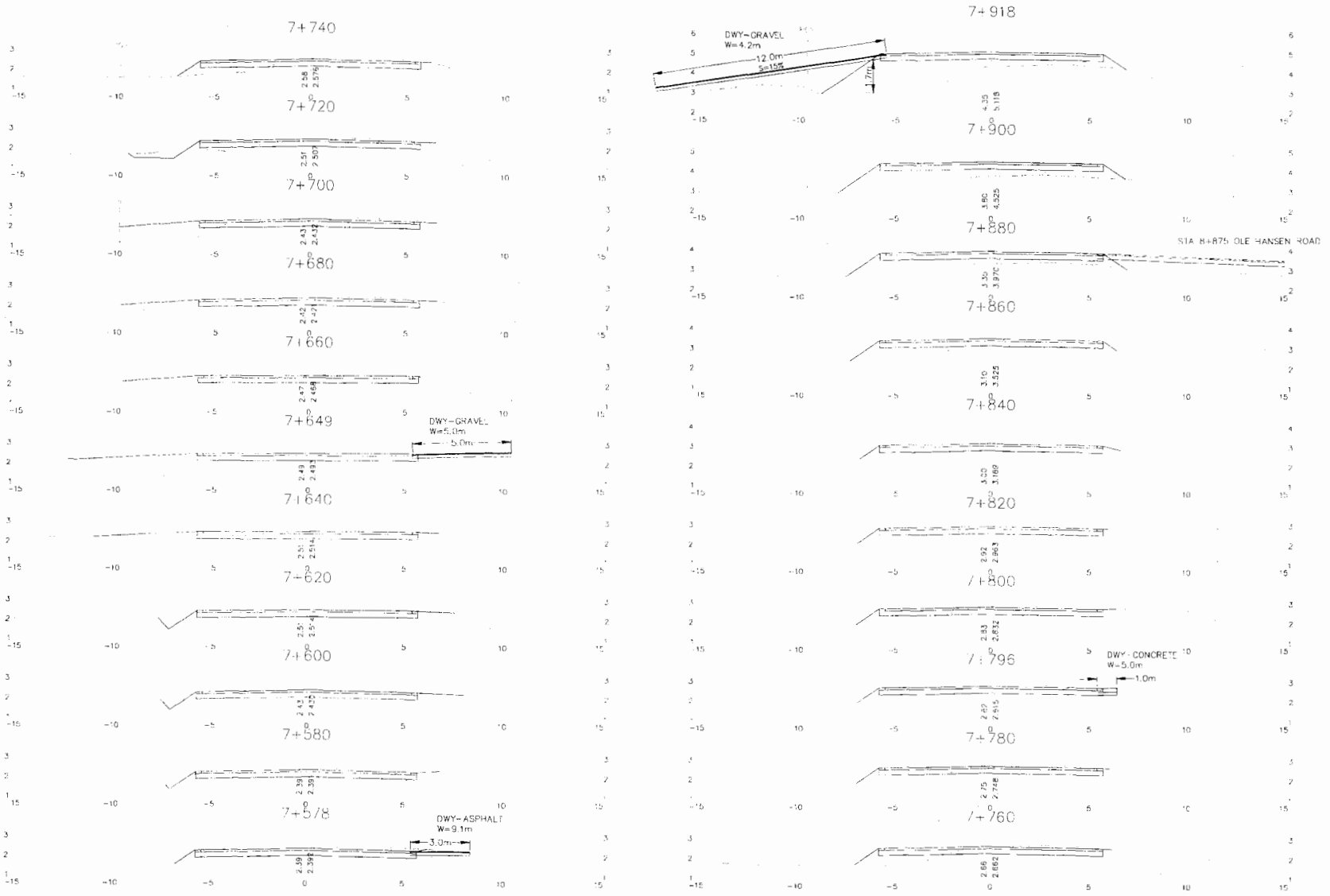
ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ROAD NO: 536300	KP (PM): 6.07–10.86 (3.77–6.75)		
PROJECT NO.: RSTEL-5934(035)	LA NO.: 01-2796J4L	DESIGNED BY: URS	OLD ARCATA ROAD
CONTRACT NO.: 580700	PPNO: 01-20078	DRAWN BY: JAB	CROSS SECTIONS – REACH 2 STA 7+300 TO 7+578
DRAWING FILE NAME: L:\PROJECTS\580200\DWG\CDSH-X6.DWG		REVIEWED BY: RWB	
PLOT DATE: 03/10/2008		APPROVED BY: CDW	

X–6

SHEET 57 OF 80



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: K. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-7
	ROAD NO: FAS30	KP (PM): 6.57-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 58 OF 80
	PROJECT NO: RSTPL-5804(033)	EA NO: 01-279534L	DRAWN BY: JAR		
	CONTRACT NO.: 980700	FPNO: 01-2001R	REVIEWED BY: RWD	CROSS SECTIONS - REACH 2 STA 7+580 TO 7+918	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CSSN X7.DWG		APPROVED BY: CJN		
	PLOT DATE: 03/10/2008				

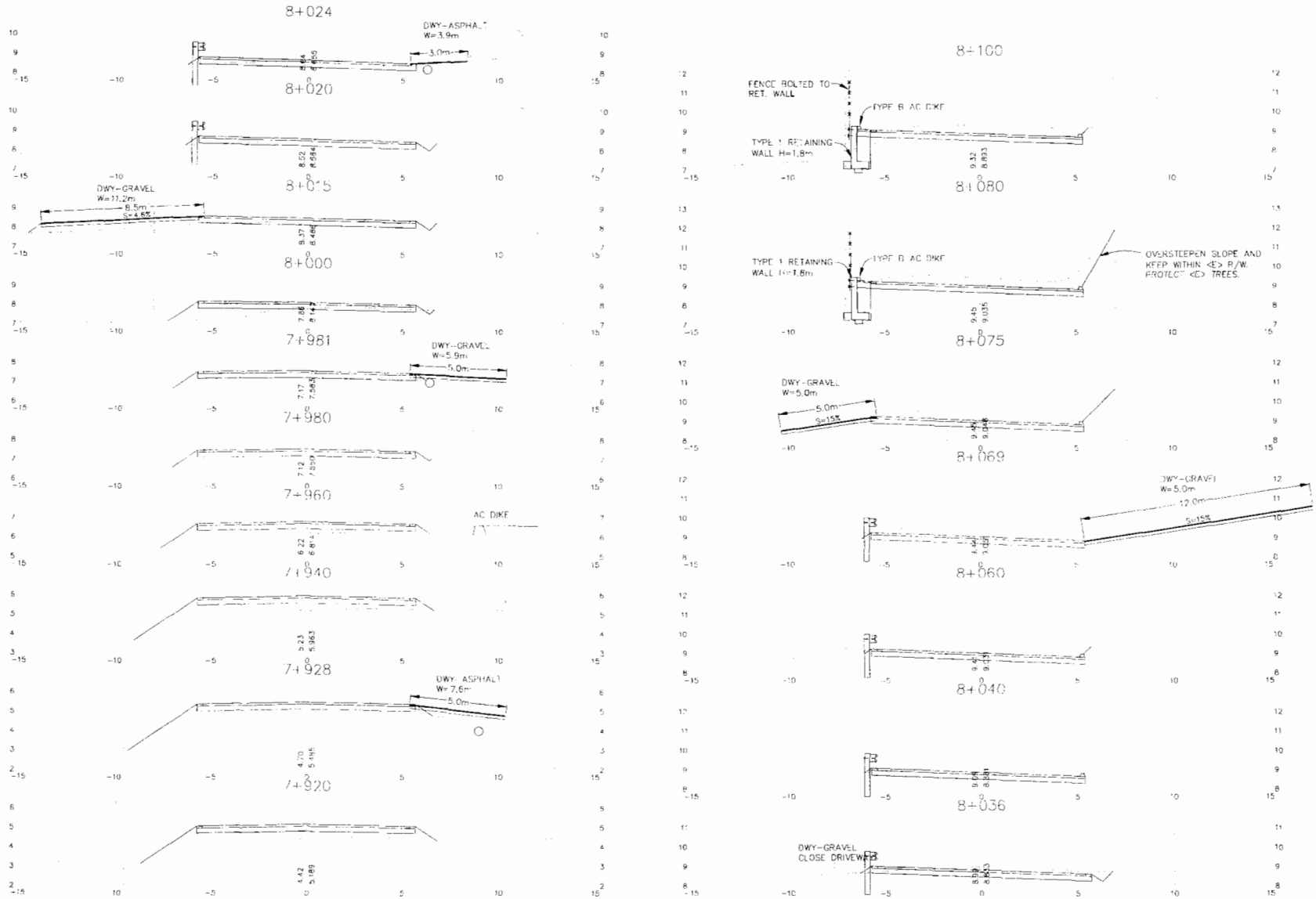


Metric

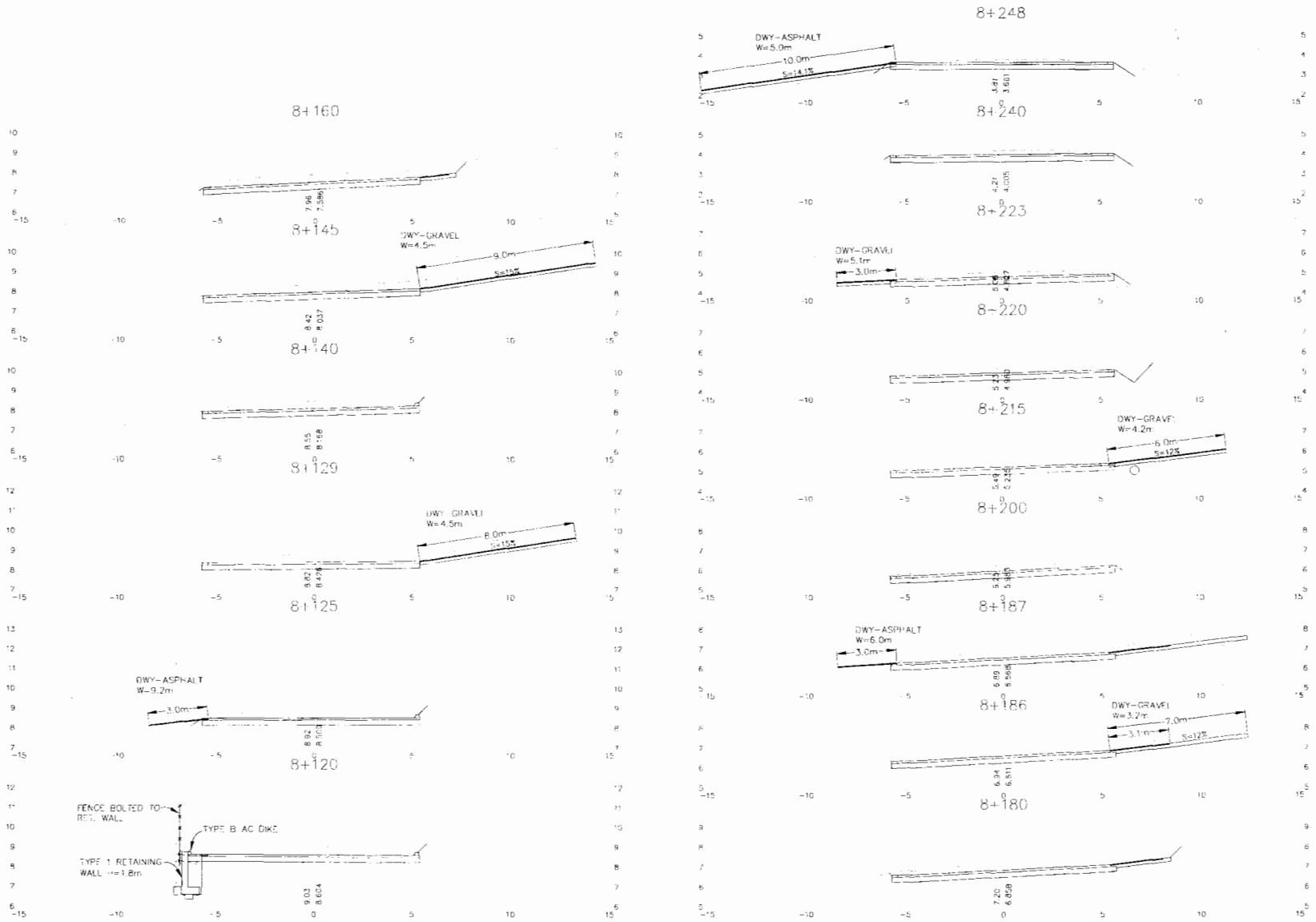
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROWNELL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: 1J6300	KP (PM): 6.07-10.85 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD
	PROJECT NO.: RSTPL 5934(033)	EA NO.: 01-278634	DRAWN BY: JAR	CROSS SECTIONS – REACH 2 STA 7+920 TO 8+120
	CONTRACT NO.: 882700	PPNO: 01-20019	REVIEWED BY: RWB	
	DRAWING FILE NAME: I:\PROJECTS\882700\DWG\CSN-XR.DWG		APPROVED BY: CSW	
	PLOT DATE: 03/0/2008			

X-8

SHEET 59 OF 80



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-9
	ROAD NO.: 1-5K350	KP (PM): 6.07-10.86 (3.77-6.75)		OLD ARCATA ROAD	SHEET 60 OF 80
	PROJECT NO.: NSTP-1804(033)	EA NO.: 01-279634L	DESIGNED BY: URS		
	CONTRACT NO.: 9R0200	PPNO: 01-2001R	DRAWN BY: JAR	CROSS SECTIONS - REACH 2 STA 8+125 TO 8+275	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSH-XS.DWG		REVIEWED BY: RWB		
	PLOT DATE: 03/10/2008		APPROVED BY: CJW		

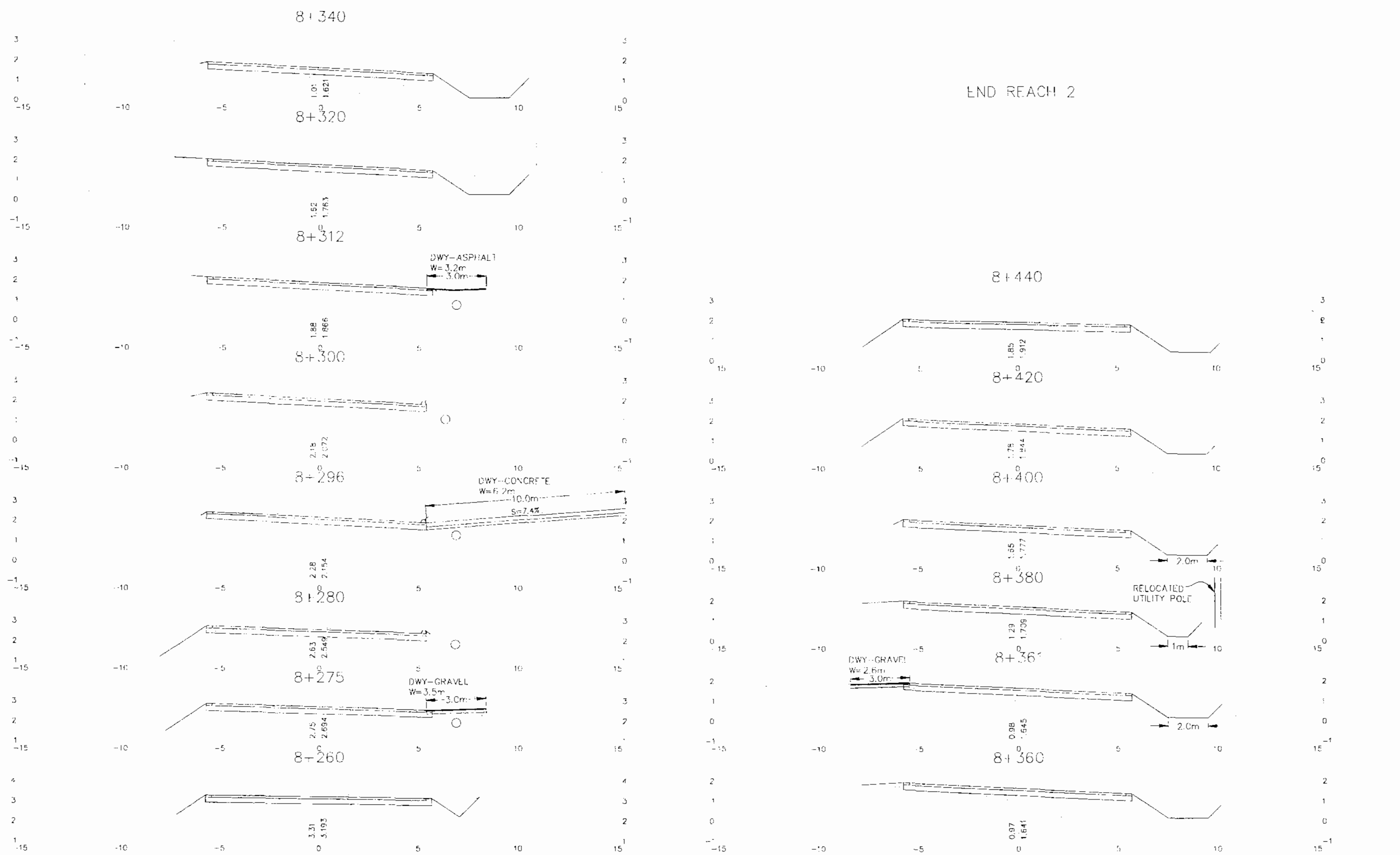


COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-10
OLD ARCATA ROAD	SHEET 61 OF 80
CROSS SECTIONS - REACH 2 STA 8+280 TO 8+440	

ROAD NAME: OLD ARCATA ROAD	
ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)
PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634L
CONTRACT NO.: 980700	PPNO: 01-2001R
DRAWING FILE NAME: I:\PROJECTS\980700\DWG\CCSM-X10.DWG	
PLOT DATE: 03/10/2008	

DESIGN SECTION
R. W. BRONKALL
DESIGNED BY: URS
DRAWN BY: JKR
REVIEWED BY: RWB
APPROVED BY: CJM

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY



ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL
ROAD NO: F3K300	KP (PM): 6.07–10.86 (3.77–6.75)	DESIGNED BY: URS
PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279834L	DRAWN BY: JAD
CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X11.DWG		APPROVED BY: CJW
PLOT DATE: 03/10/2008		

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

OLD ARCATA ROAD

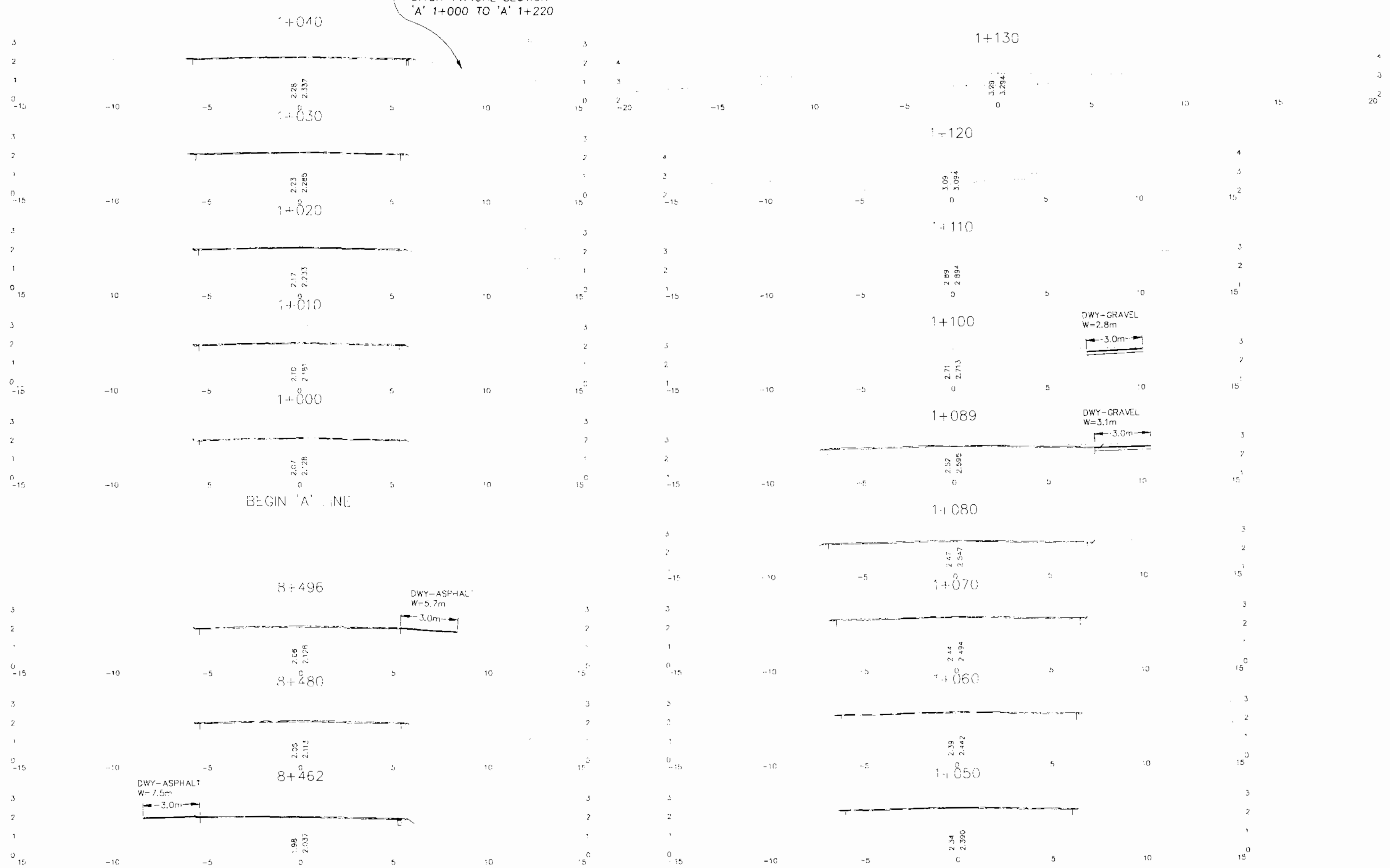
CROSS SECTIONS – REACH 3
STA 8+460 TO 8+480; 'A' 1+000 TO 'A' 1+130

X–11

SHEET 62 OF 80

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

NOTE: SEE SHEET X–29 FOR DITCH CROSS SECTIONS AND SHEET D–1 FOR DITCH TYPICAL SECTION 'A' 1+000 TO 'A' 1+220

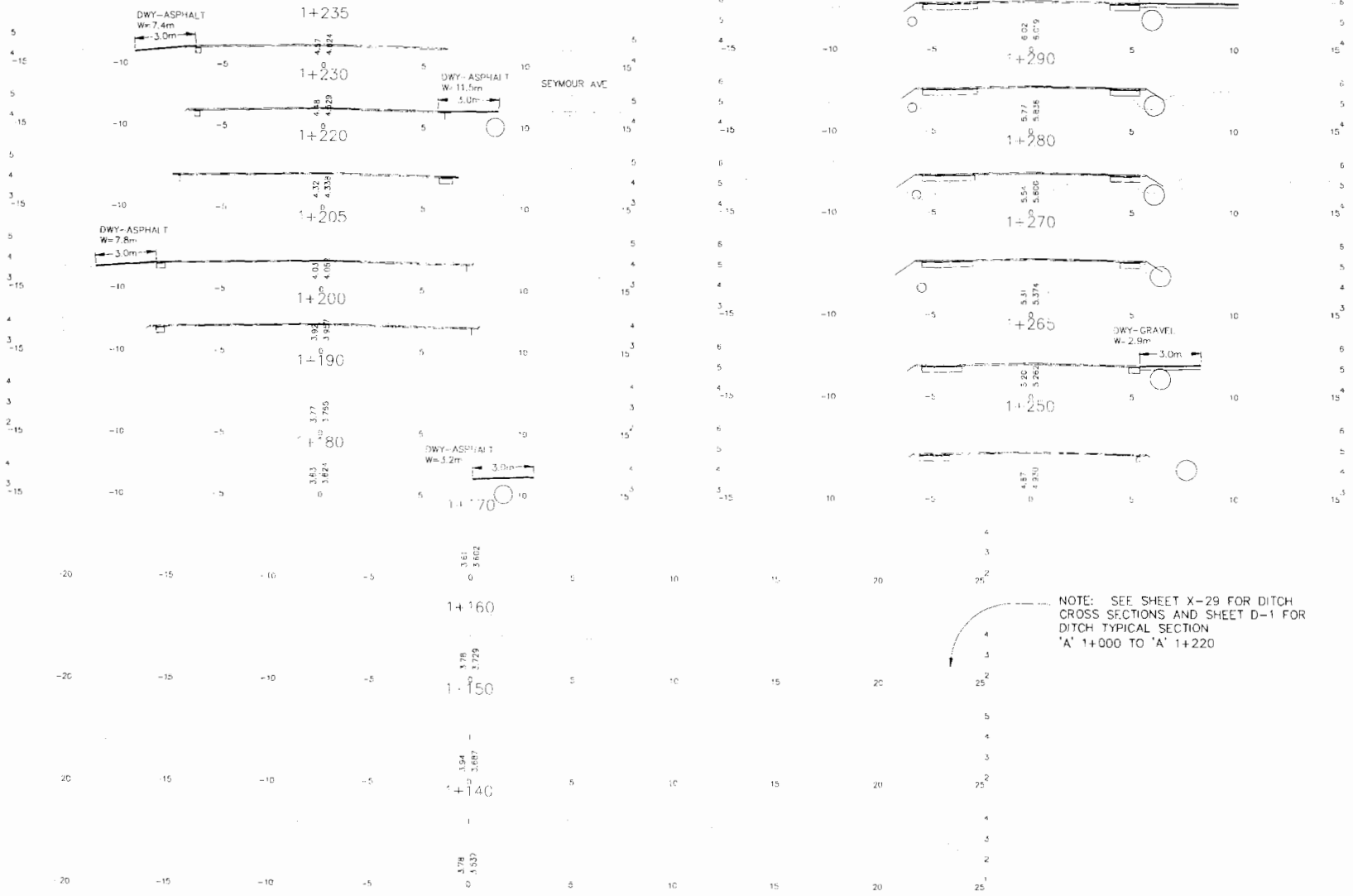


Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROWNLEE	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: 53K300	KP (PM): 8.07-10.86 (5.77-6.75)		OLD ARCATA ROAD
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279134	DESIGNED BY: HRG	SHEET 63 OF 80
	CONTRACT NO.: 580700	PPNO: 01 2001R	DRAWN BY: JAB	CROSS SECTIONS – REACH 3 STA 'A' 1+140 TO 'A' 1+300
	DRAWING FILE NAME: L:\PROJECTS\580700\DWG\CDSM-X12.DWG		REVIEWED BY: RWB	
	PLOT DATE: 03/10/2008		APPROVED BY: CJW	

X-12

SCALE
1:100 HORIZONTAL
1:100 VERTICAL



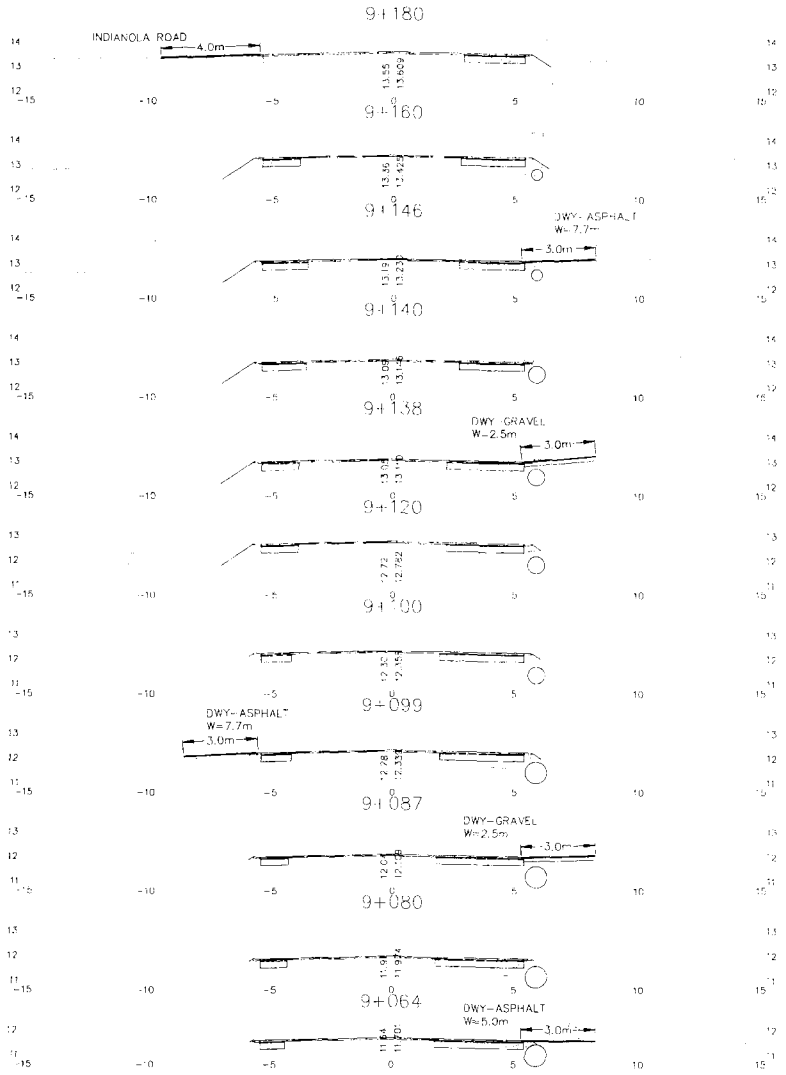
NOTE: SEE SHEET X-29 FOR DITCH CROSS SECTIONS AND SHEET D-1 FOR DITCH TYPICAL SECTION 'A' 1+000 TO 'A' 1+220

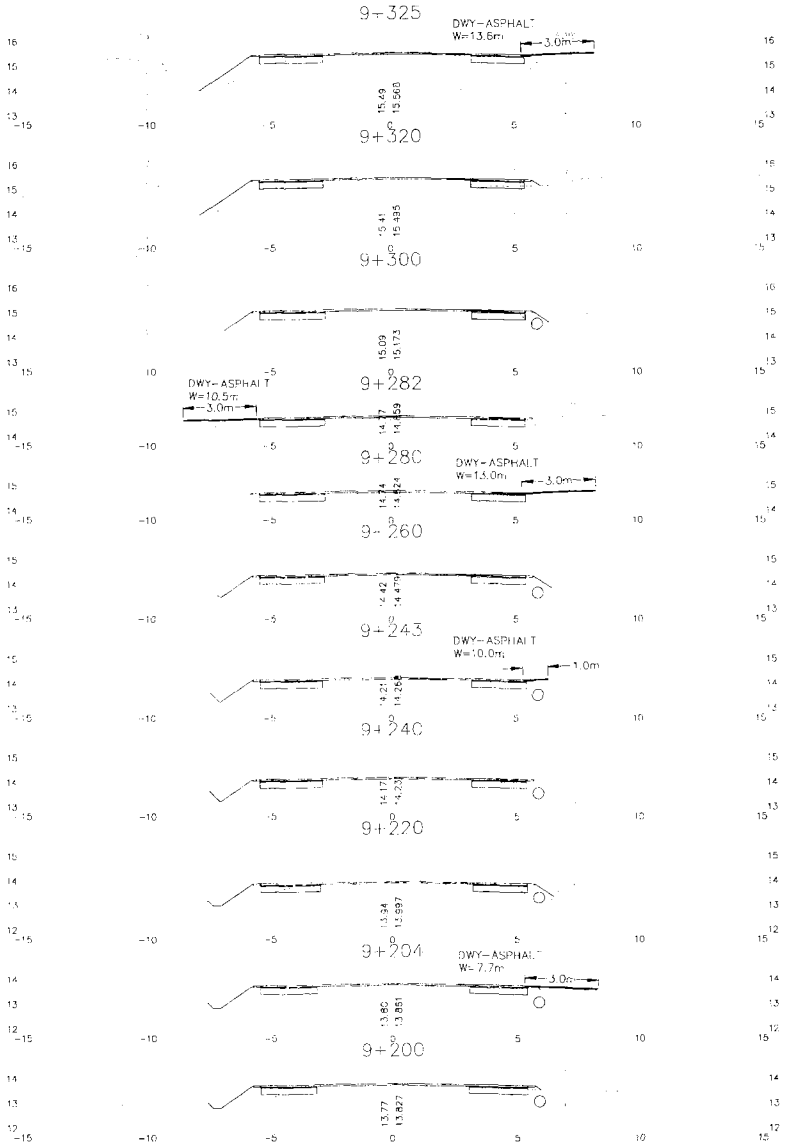
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD ROAD NO: F36300	KP (PM): 6.07–10.86 (3.77–6.75)	DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X–13
	PROJECT NO.: RSTPL–5904(033)	LA NO.: 01–279634	DESIGNED BY: LRS	OLD ARCATA ROAD	SHEET 64 OF 80
	CONTRACT NO.: 980700	RPNO.: 01 20019	DRAWN BY: JAR	CROSS SECTIONS – REACH 3 STA 8+820 TO 9+099	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSH-X13.DWG		REVIEWED BY: RWB		
	PLOT DATE: 03/18/2005		APPROVED BY: GJM		

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

DAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROKAW	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-14
	ROAD NO: 1-36300	KP (PM): 5.07-10.80 (3.77-6.75)			
	PROJECT NO.: RSTPL-5904(031)	EA NO.: 01-279834	DESIGNED BY: IRS	OLD ARCATA ROAD	SHEET 65 OF 80
	CONTRACT NO.: 980700	PPNO: 01-2001R	DRAWN BY: JAB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X14.DWG		REVIEWED BY: RWB	CROSS SECTIONS – REACH 3 STA 9+100 TO 9+380	
	PLOT DATE: 03/10/2008		APPROVED BY: CJM		

SCALE
1:100 HORIZONTAL
1:100 VERTICAL





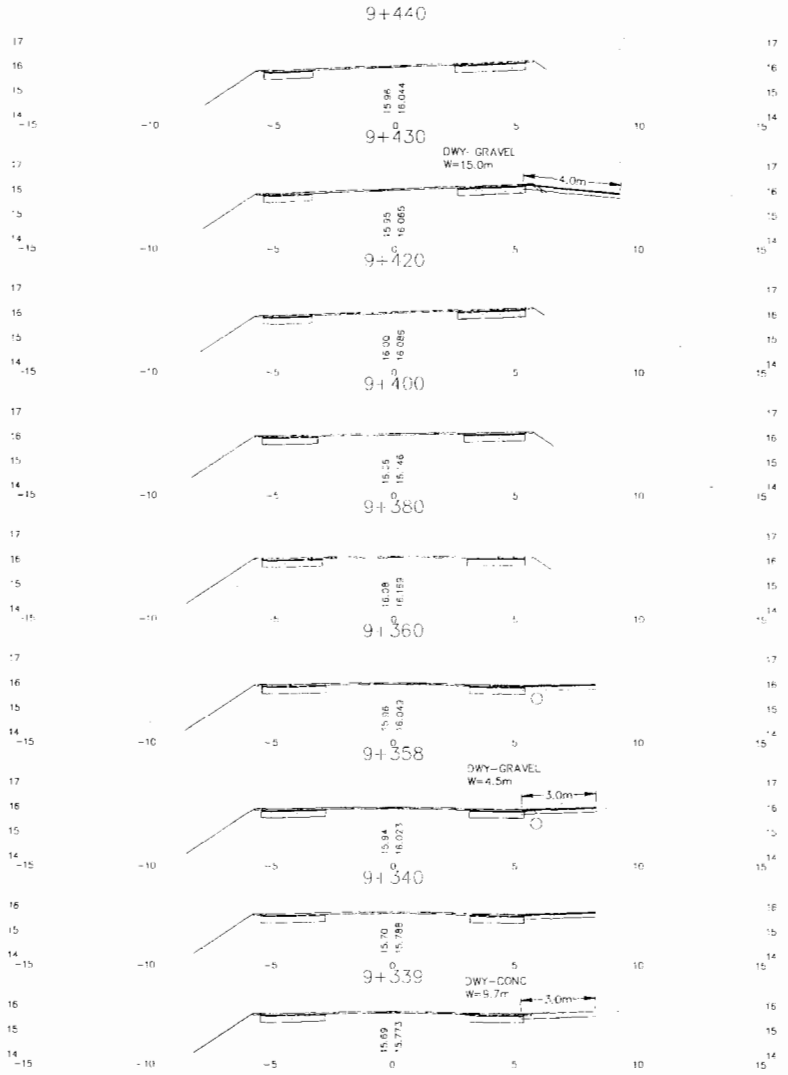
Metric

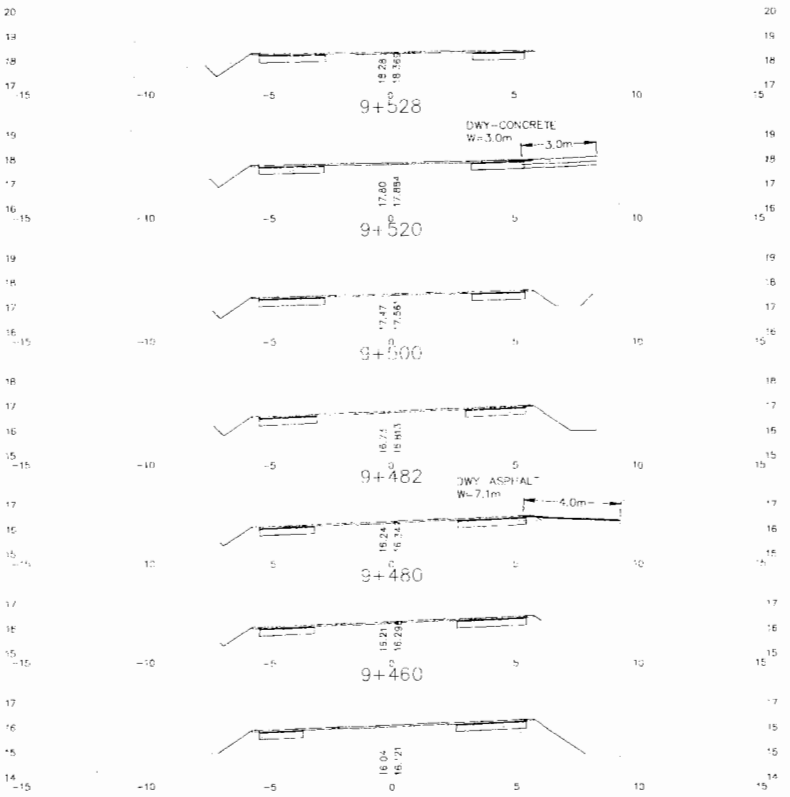
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ROAD NO: 1S4100	KP (PM): 1.07-10.86 (.37-6.75)	R. W. BRONKALL	X-15
PROJECT NO.: RSTPL-5904(033)	E.A NO.: 0F-279634L	DESIGNED BY: LRS	OLD ARCATA ROAD
CONTRACT NO.: 980700	P.PNO: 01-200YR	DRAWN BY: JAT	SHEET 66 OF 80
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSH-XTS.DWG		REVIEWED BY: RWB	CROSS SECTIONS - REACH 3 STA 9+400 TO 9+540
PLOT DATE: 01/10/2008		APPROVED BY: DJM	

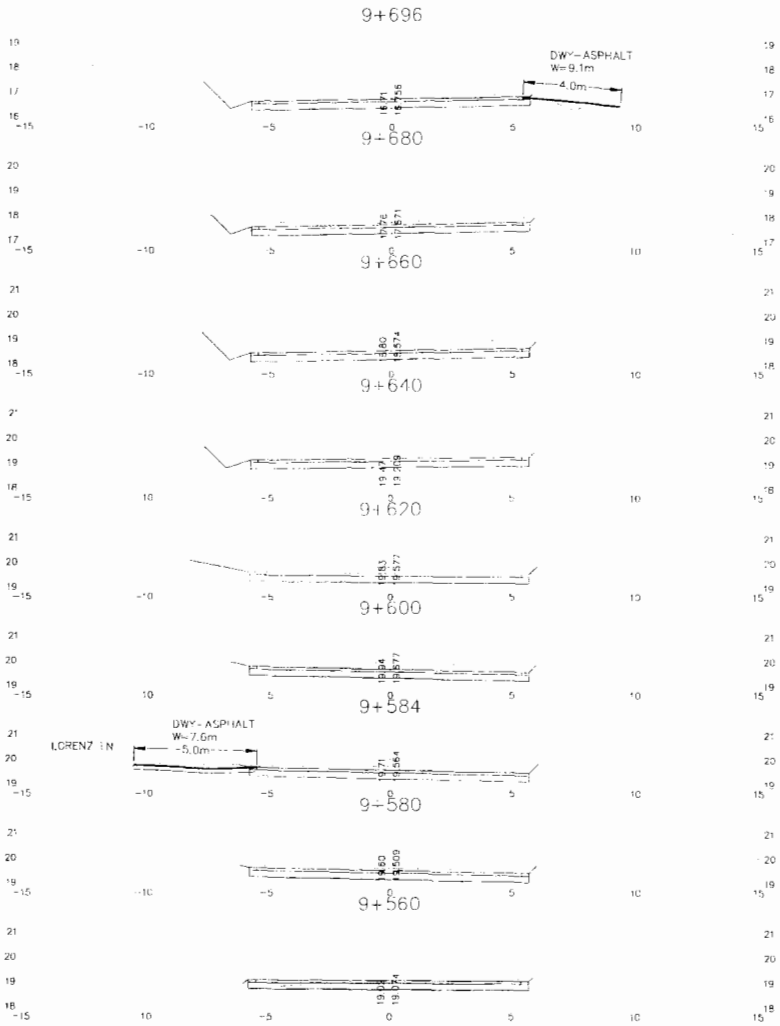
SCALE
1:100 HORIZONTAL
1:100 VERTICAL

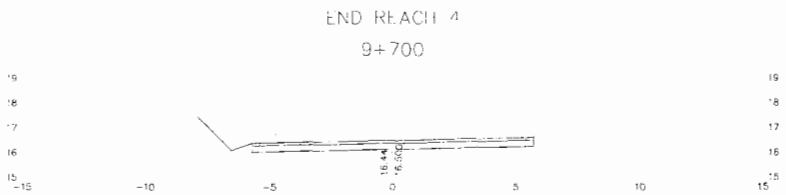




BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROKAW	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-16
	ROAD NO.: 1#300	KP (PM): 6.07-13.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 67 OF 80
	PROJECT NO.: RSTPL 5504(033)	EA NO.: 01-279634L	DRAWN BY: JAB		
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB	CROSS SECTIONS – REACH 4 STA 9+560 TO 9+700	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X16.DWG		APPROVED BY: CJM		
	PLOT DATE: 03/10/2008				

SCALE
1:100 HORIZONTAL
1:100 VERTICAL





BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-17
	ROAD NO.: 1W300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: IRS	OLD ARCATA ROAD	SHEET 68 OF 80
	PROJECT NO.: RSTP(-5804(033)	EA NO.: 01-2736J4	DRAWN BY: JAR		
	CONTRACT NO.: 982200	PPNO: 01-2001R	REVIEWED BY: RWB	CROSS SECTIONS - REACH 5 STA 9+720 TO 9+930	
	DRAWING FILE NAME: L:\PROJECTS\982200\DWG\CDSN-X17.DWG		APPROVED BY: DJW		
	PLOT DATE: 02/20/2008				

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

9+800

9+795

DWY-GRAVEL
W=3.0m

9+780

9+766

DWY-GRAVEL
W=6.0m

9+760

9+759

DWY-ASPHALT
W=3.0m

9+740

9+728

DWY-ASPHALT
W=3.0m

9+720

9+930

DWY-ASPHALT
W=8.3m

9+920

9+901

DWY-ASPHALT
W=8.1m

9+900

9+880

9+876

DWY-ASPHALT
W=8.5m

9+860

9+857

DWY-ASPHALT
W=12.0m

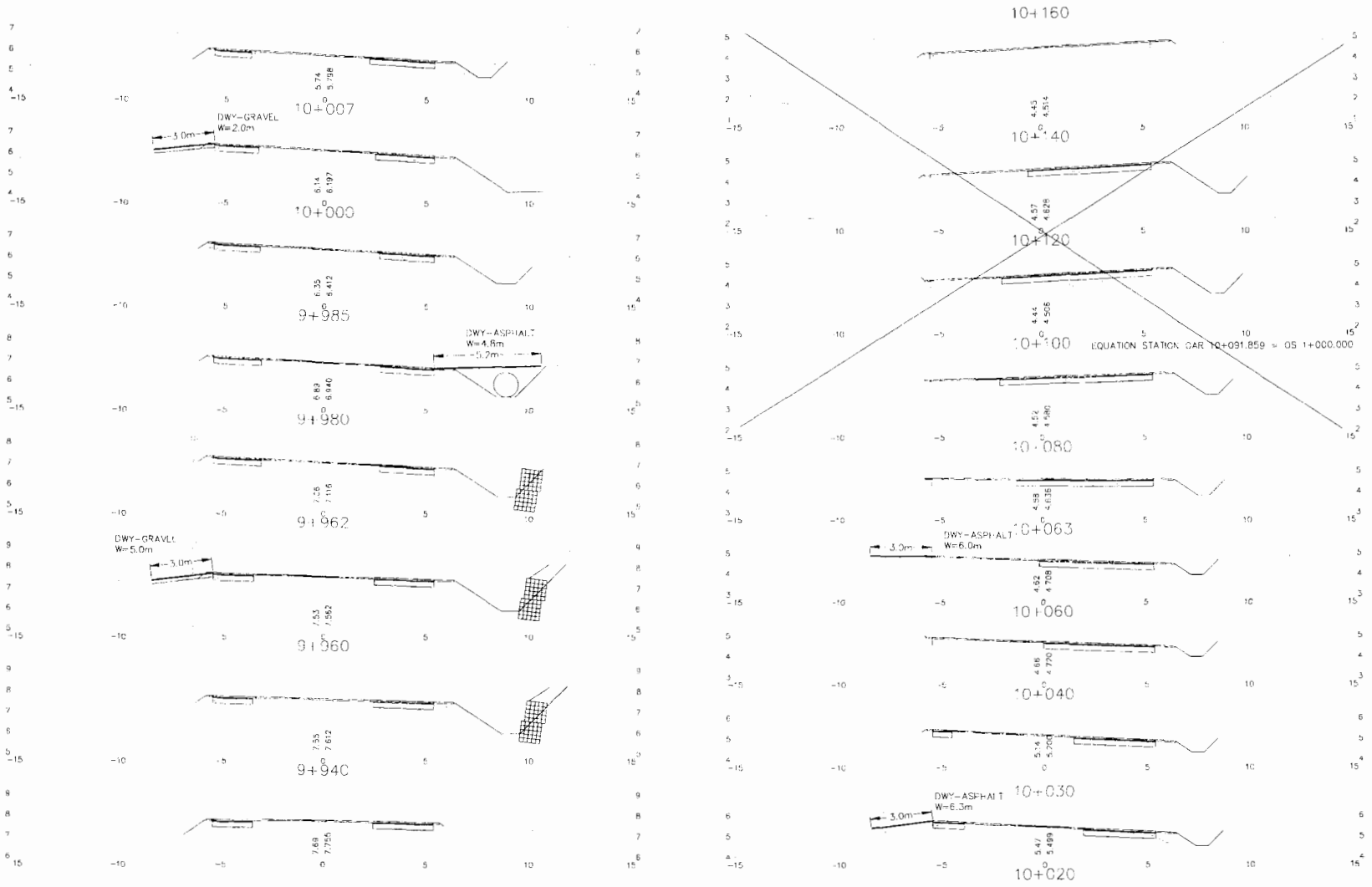
9+840

9+820

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-18
	ROAD NO: 534300	KP (PM): 6.07-10.65 (3.77-6.62)			
	PROJECT NO.: RSTPL-5914(033)	EA NO.: 01-279614	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 69 OF 80
	CONTRACT NO.: 980700	PPNO: 01-20019	DRAWN BY: JAB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X18.DWG		REVIEWED BY: RWB	CROSS SECTIONS - REACH 5 STA 9+940 TO 10+160	
	PLOT DATE: 03/10/2008		APPROVED BY: CJW		

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

SEE SHEETS X-26, X-27, & X-28 FOR STATIONS 10+091.859 TO 10+346.155



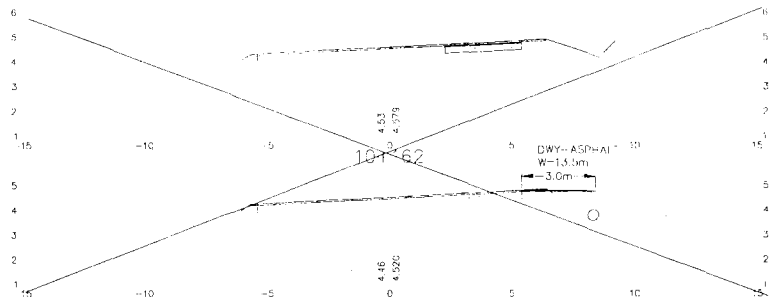
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-19
	ROAD NO: F34300	KP (PM): 5.67-10.86 (3.77-6.75)	DESIGNED BY: UHS	OLD ARCATA ROAD	SHEET 70 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-2756J4	DRAWN BY: JAR		
	CONTRACT NO.: 38370;	PPNO: 01-70019	REVIEWED BY: RWB	CROSS SECTIONS - REACH 5 STA 10+180	
	DRAWING FILE NAME:	L:\PROJECTS\382700\DWG\CDSN-X19.DWG	APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

SEE SHEETS X-26, X-27, & X-28 FOR STATIONS 10+091.859 TO 10+346.155

END REACH 5

10+180

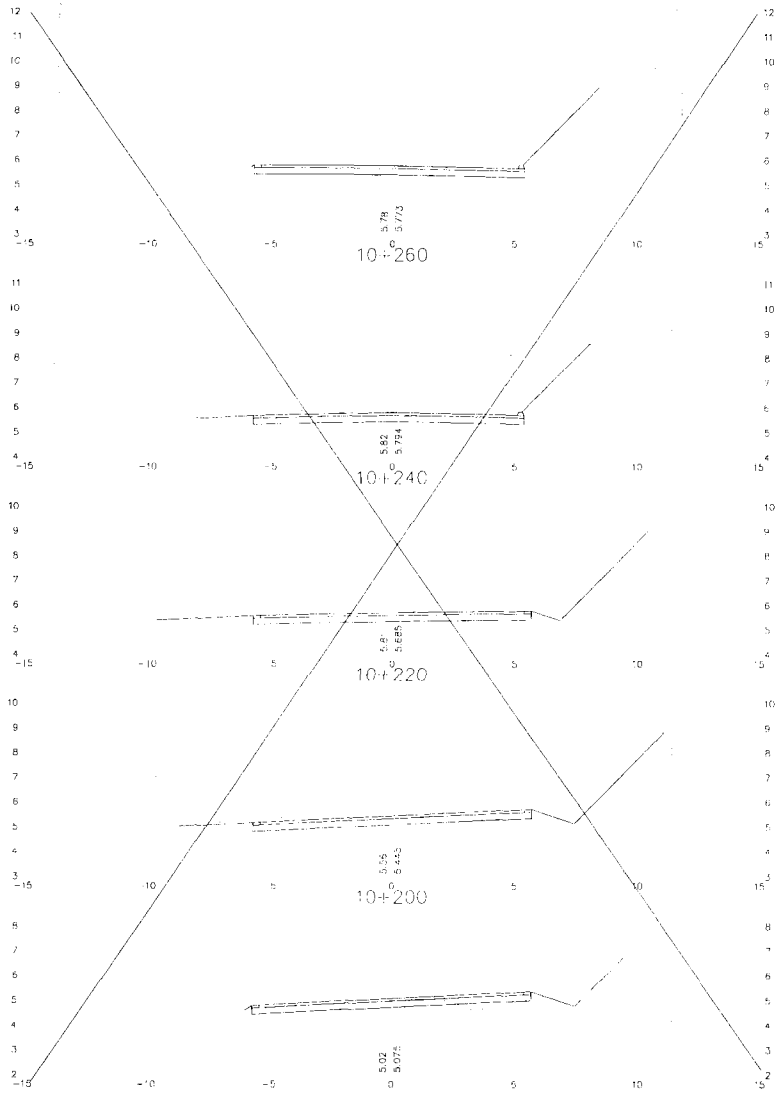


BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-20
	ROAD NO.: F.W.300	KP (PM): 5.07-12.86 (3.77-8.0)		OLD ARCATA ROAD	SHEET 71 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634L	DESIGNED BY: URS		
	CONTRACT NO.: 980700	PPNO: 01-2001R	DRAWN BY: JAB	CROSS SECTIONS - REACH 5 STA 10+200 TO 10+360	
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X20.DWG		REVIEWED BY: WMI		
	PLOT DATE: 03/10/2008		APPROVED BY: C.M.		

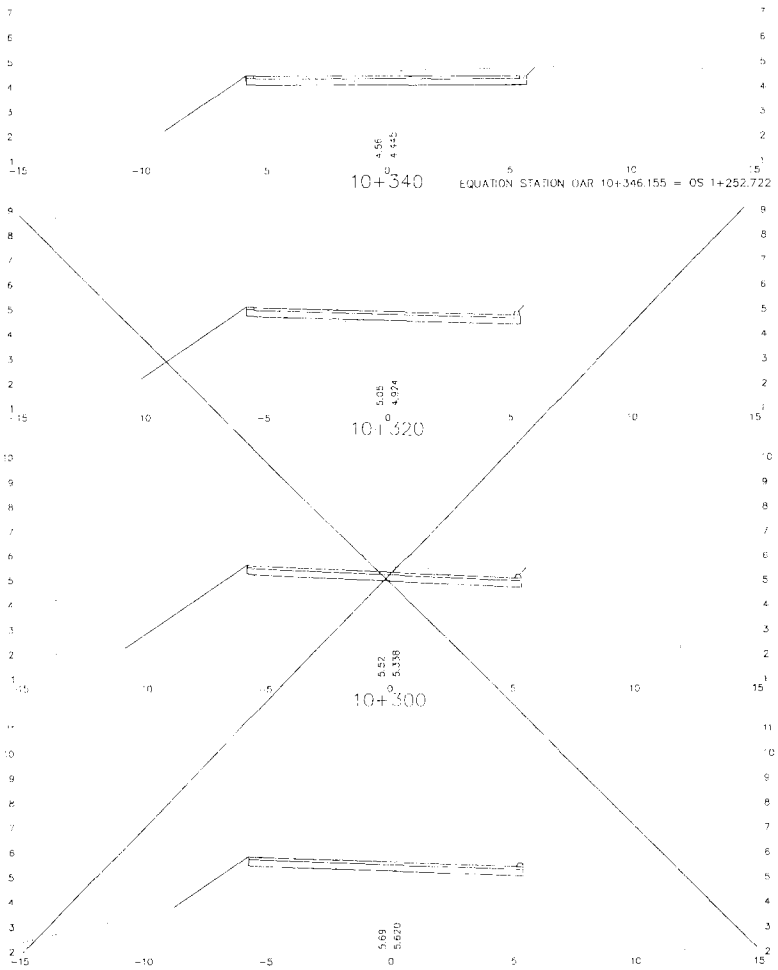
SCALE
1:100 HORIZONTAL
1:100 VERTICAL

10+280

SEE SHEETS X-26, X-27, & X-28 FOR STATIONS 10+091.859 TO 10+346.155

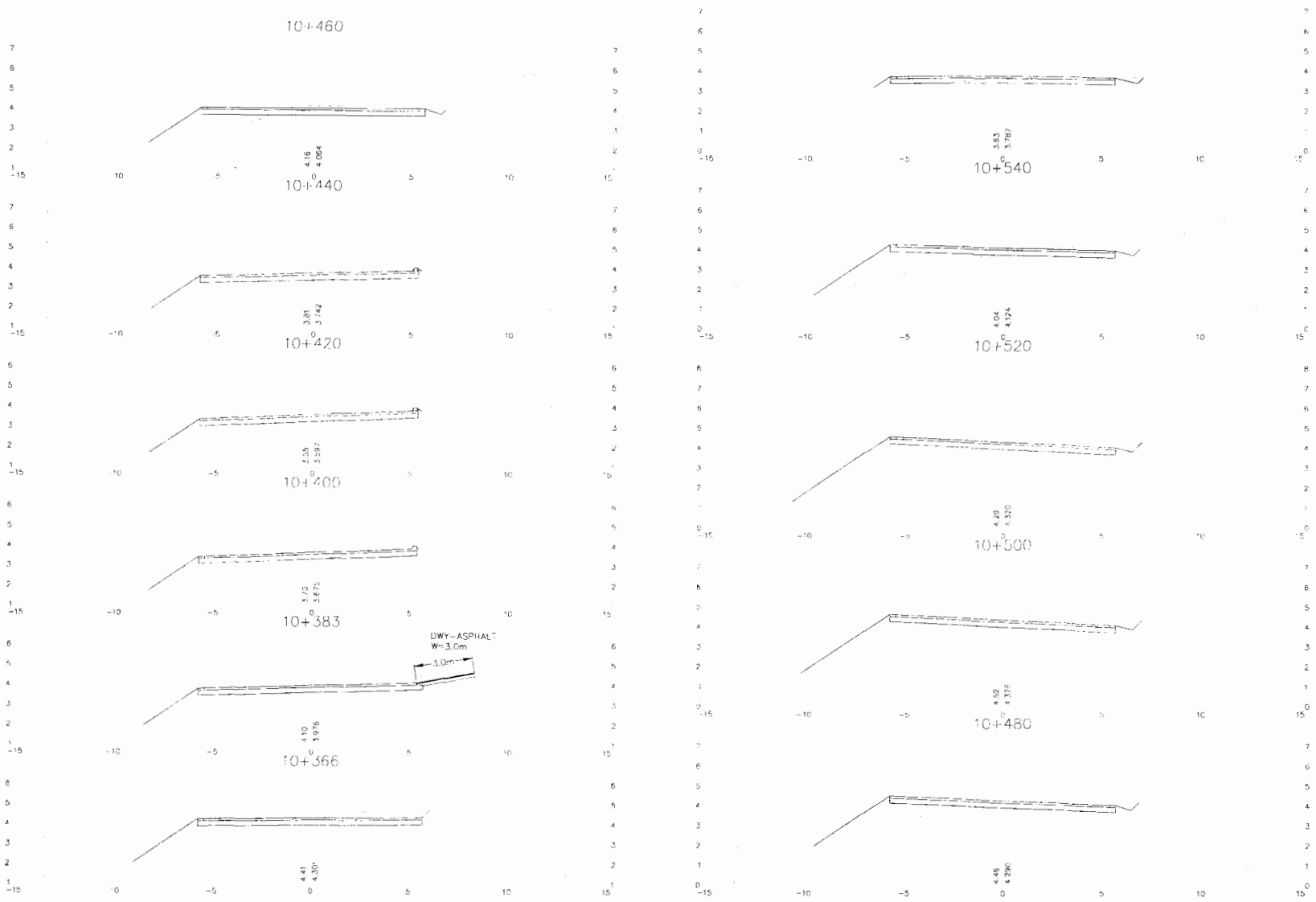


10+360



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: K. W. BRENKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-21
	ROAD NO: +36.550	KP (PM): 5.07-10.66 (3.37-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 72 OF 80
	PROJECT NO: RSTP-5504(033)	EA NO.: 01-276534L	DRAWN BY: JAB		
	CONTRACT NO.: 980700	APPRD: 01-2004	REVIEWED BY: RWB	CROSS SECTIONS – REACH 6 STA 10+366 TO 10+560	
	DRAWING FILE NAME:	I:\PROJECTS\980700\DWG\CDSX-X21.DWG	APPROVED BY: CJW		
	PLOT DATE: 03/10/2008				

SCALE
1:100 HORIZONTAL
1:100 VERTICAL



Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
ROAD NO.: F34300	KP (PM): 6.07–10.86 (3.77–6.75)		OLD ARCATA ROAD
PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634L	DESIGNED BY: URS	CROSS SECTIONS – REACH 6 STA 10+580
CONTRACT NO.: 980700	PPNO: 01 2001R	DRAWN BY: JAB	
DRAWING FILE NAME: L:\PROJECTS\980700\DWGS\CDSH-X22.DWG		REVIEWED BY: RWB	
PLOT DATE: 03/10/2008		APPROVED BY: CJW	

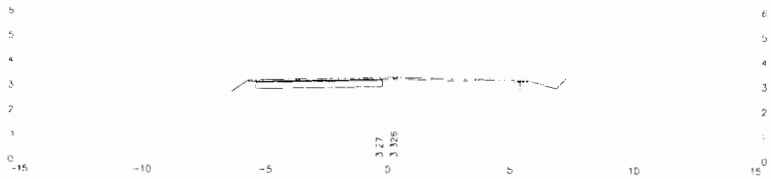
X-22

SHEET 73 OF 80

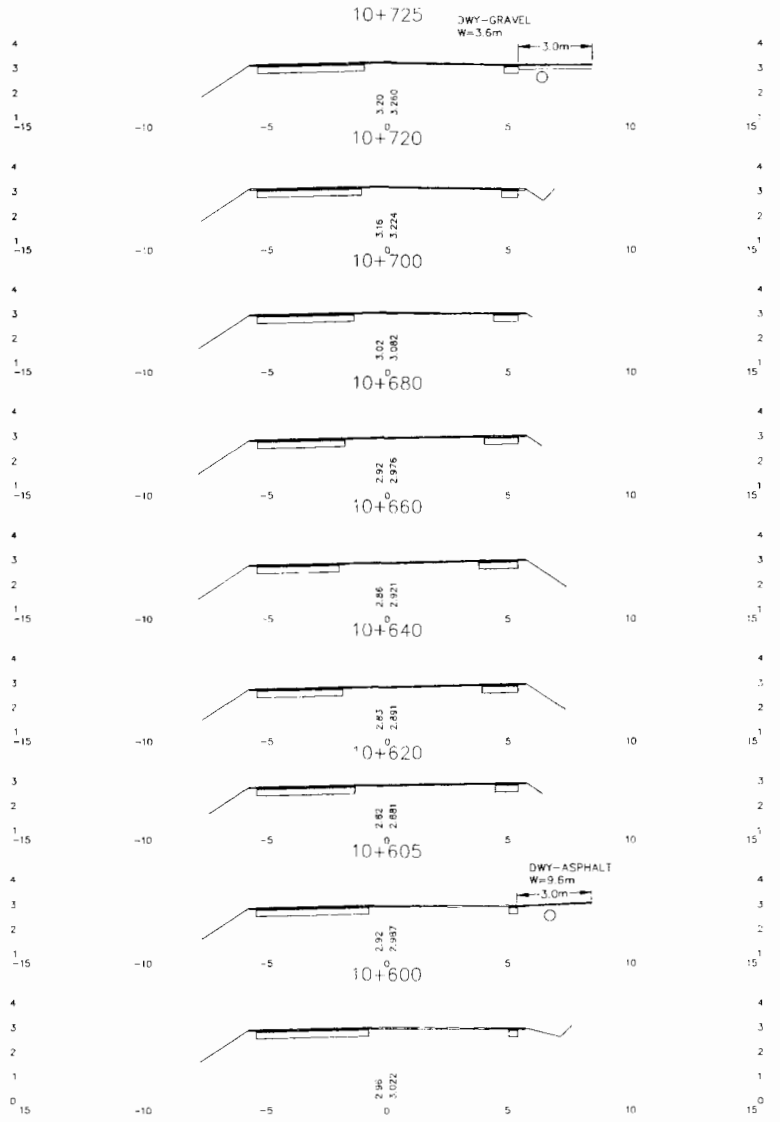
SCALE
1:100 HORIZONTAL
1:100 VERTICAL

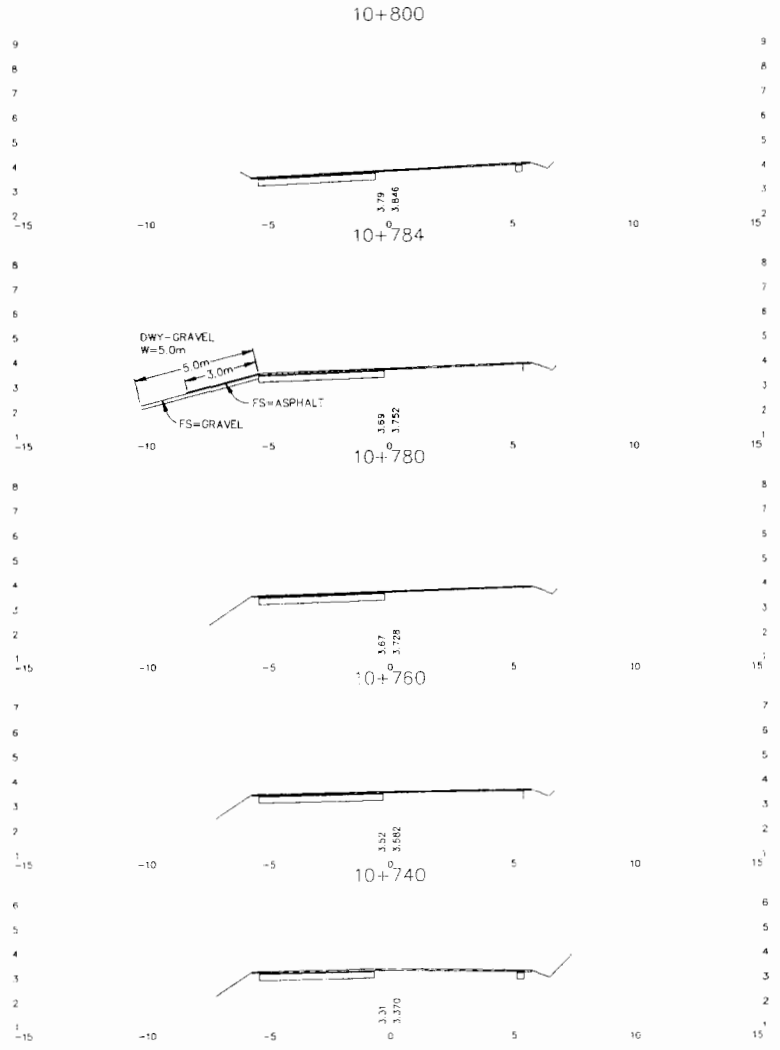
END REACH 6

10+580



SCALE
1:100 HORIZONTAL
1:100 VERTICAL





BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BROMHALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-23
	ROAD NO: 136300	KP (PM): 6.07-10.86 (3.77-6.75)			
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634L	DESIGNED BY: URS	OLD ARCATA ROAD	SHEET 74 OF 80
	CONTRACT NO.: 980700	PPNO: 01-2001R	DRAWN BY: JAB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X23.DWG		REVIEWED BY: RWB	CROSS SECTIONS - REACH 7 STA 10+600 TO 10+820	
	PLOT DATE: 03/10/2008		APPROVED BY: CJW		

Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING

IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME: OLD ARCATA ROAD			
ROAD NO: 13K300	KP (PM): 6.07-10.86 (3.77-6.75)		
PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279634		
CONTRACT NO.: 980700	PPNO: 01-2001W		
DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X24.DWG			
PLOT DATE: 03/10/2008			

DESIGN SECTION
R. W. BRONKALL

DESIGNED BY: JRS
DRAWN BY: JAB
REVIEWED BY: RWB
APPROVED BY: CJW

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

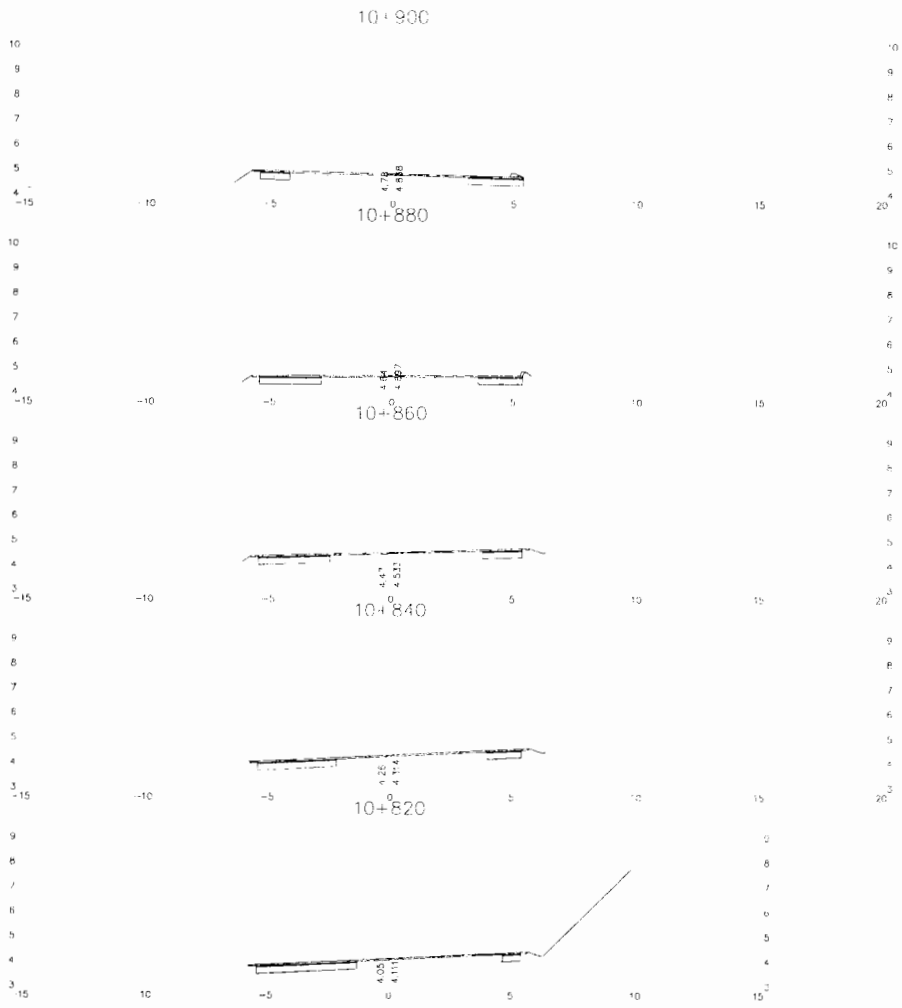
OLD ARCATA ROAD

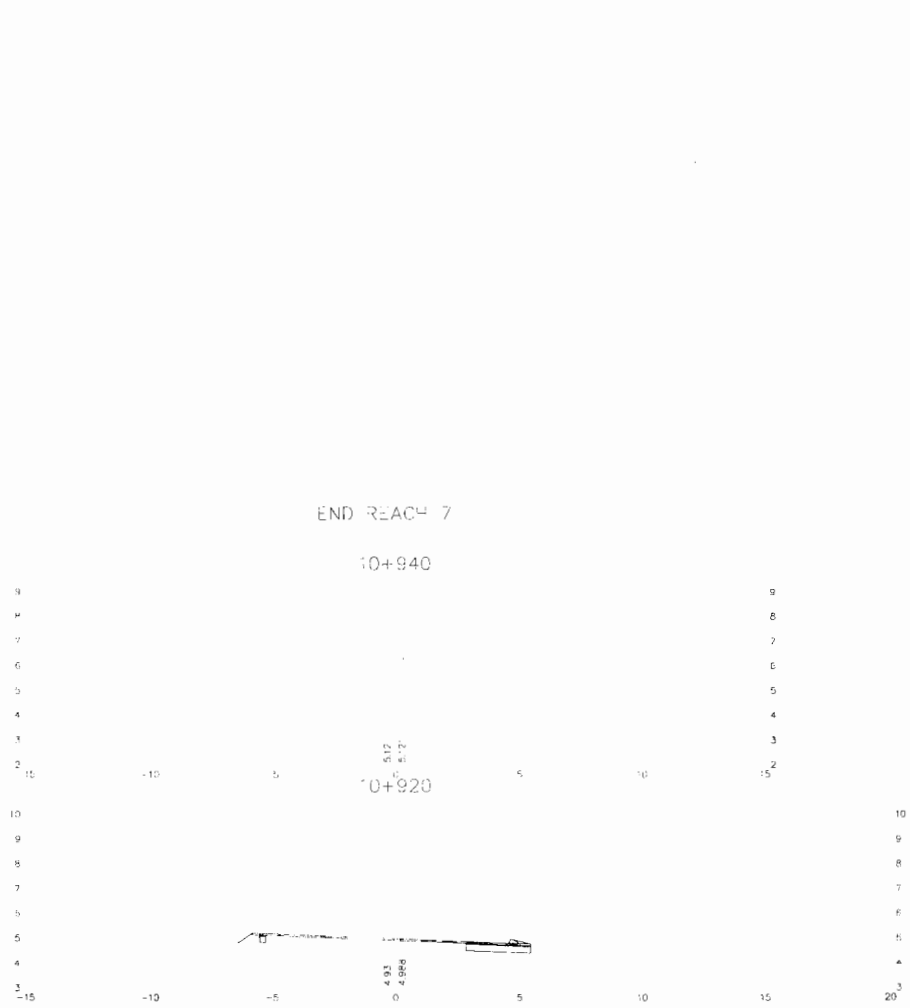
CROSS SECTIONS – REACH 7
STA 10+840 TO 10+940

X-24

SHEET 75 OF 80

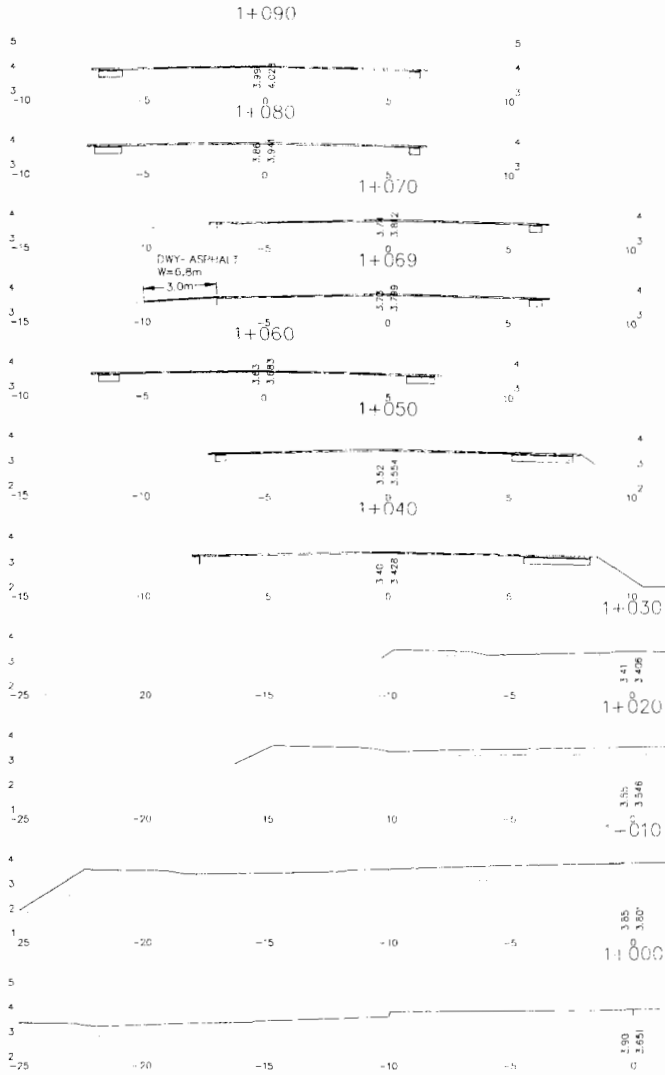
SCALE
1:100 HORIZONTAL
1:100 VERTICAL



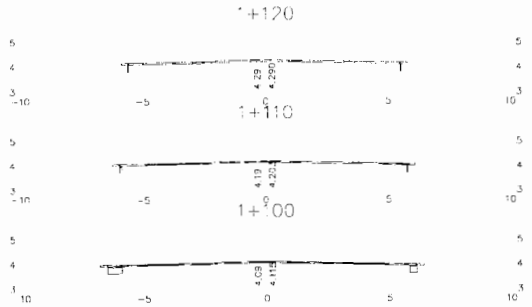


SCALE
1:100 HORIZONTAL
1:100 VERTICAL

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-25
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO.: 1.M0300	KP (PM): 6.07-10.86 (3.77 6.75)	DESIGNED BY: LRS	OLD ARCATA ROAD	SHEET 76 OF 80
	PROJECT NO.: BSTPL-5934(033)	EA NO.: 01-279614	DRAWN BY: JAR	CROSS SECTIONS - "B" LINE STA "B" 1+000 TO "B" 1+120	
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X25.DWG		APPROVED BY: GLW		
	PLOT DATE: 03/10/2008				

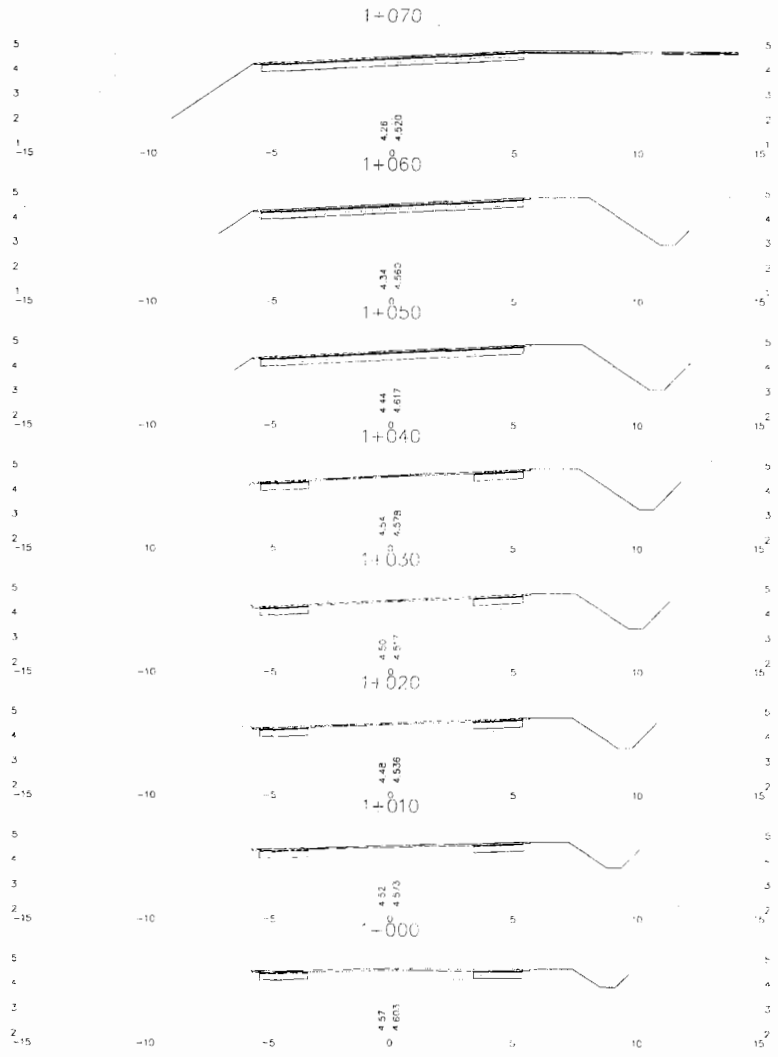


SCALE
1:100 HORIZONTAL
1:100 VERTICAL



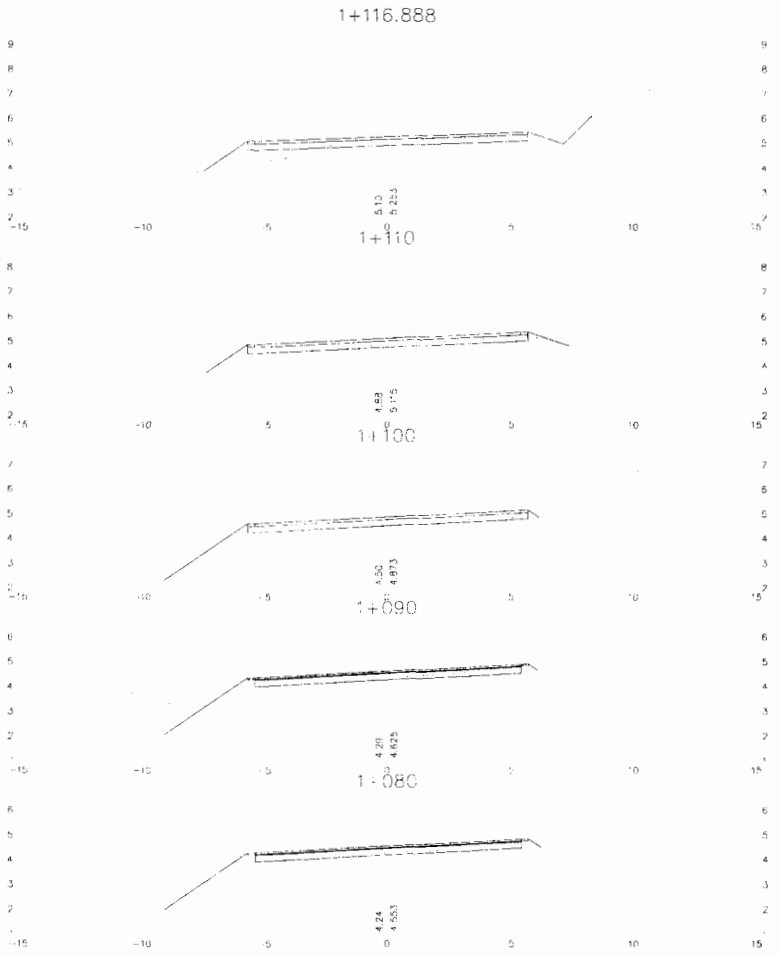
BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-26
	ROAD NO: 136300	KP (PM): 6.07 10.86 (3.77-6.75)	DESIGNED BY: LRS	OLD ARCATA ROAD	SHEET 77 OF 80
	PROJECT NO.: BSPL-5904(053)	EA NO.: 01-279634L	DRAWN BY: JAB		
	CONTRACT NO.: 980200	PPNO: 01-200TR	REVIEWED BY: RWD	CROSS SECTIONS – "OAR SCHNEIDER" STA "03" 1+000 TO 1+116.888	
	DRAWING FILE NAME: L:\PROJECTS\980200\DWGS\CDSN: X26.DWG		APPROVED BY: CW		
	PLOT DATE: 03/10/2008				

SCALE
1:100 HORIZONTAL
1:100 VERTICAL



EQUATION STATION OAR 10+091.859 = CS 1+000.000

SCALE
1:100 HORIZONTAL
1:100 VERTICAL



BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	X-27
	ROAD NO: 53K100	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: JRS	OLD ARCATA ROAD	SHEET 78 OF 80
	PROJECT NO.: RSTPL-5904(033)	EA NO.: 01-279534L	DRAWN BY: JAB		
	CONTRACT NO.: 950700	RPNO: 01-2001R	REVIEWED BY: RWB	CROSS SECTIONS - "OAR SCHNEIDER" STA "OS" 1+120 TO 1+200	
	DRAWING FILE NAME:	L:\PROJECTS\950700\DWG\CDSN-X27.DWG	APPROVED BY: CJM		
	PLOT DATE: 03/10/2008				

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

1+160

1+150

1+140

1+130

1+120

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

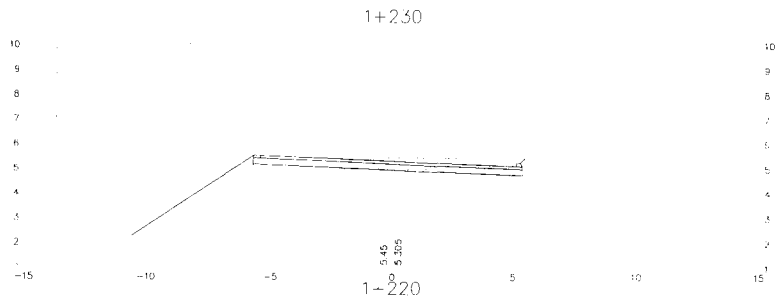
1+200

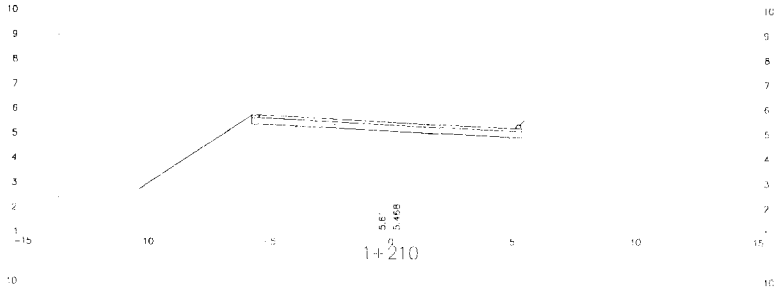
1+190

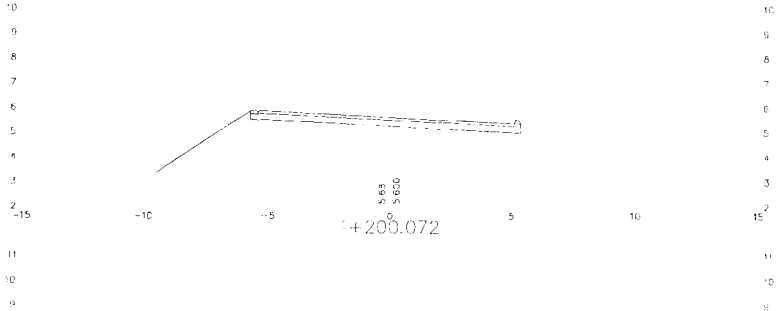
1+180

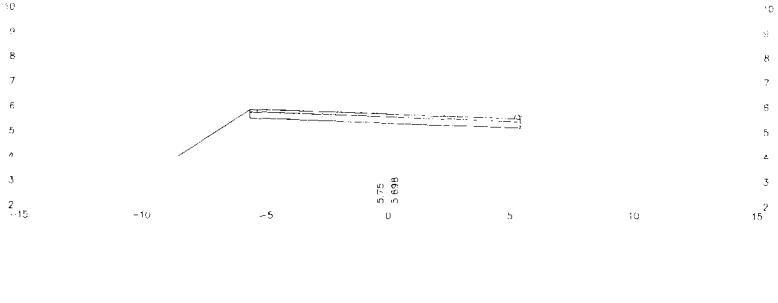
1+170

SCALE
1:100 HORIZONTAL
1:100 VERTICAL



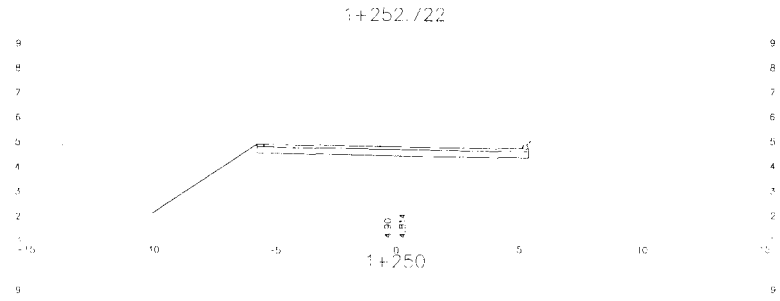


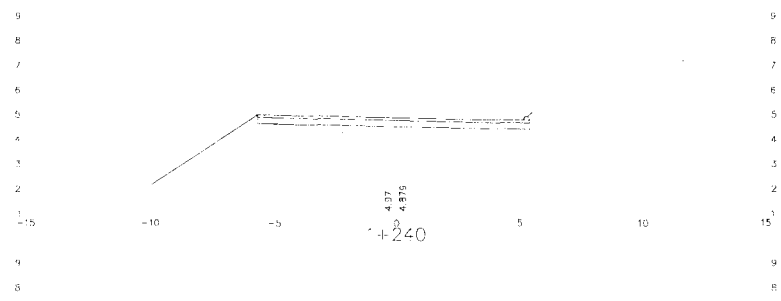


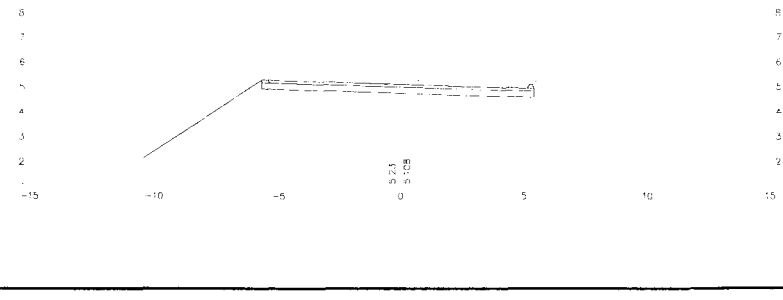


SCALE
1:100 HORIZONTAL
1:100 VERTICAL

EQUATION: STATION OAR 10+146.55 = OS 1+252.722







BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING. IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION: R. W. BROMKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
	ROAD NO: 13K300	KP (PM): 6.07-10.86 (3.77-6.75)		
	PROJECT NO: RSTPL-5904(033)	EA NO.: 01-279634	DESIGN'D BY: HRS	OLD ARCATA ROAD
	CONTRACT NO.: 980700	PPNO: 01-2001P	DRAWN BY: JAB	
	DRAWING FILE NAME: ...\PROJECTS\980700\DWG\CDSN-X28.DWG		R'MEMB BY: RKB	CROSS SECTIONS – 'OAR SCHNEIDER' STA '05' 1+200.702 TO 1+252.722
	PLOT DATE: 03/10/2008		APPROVED BY: CJW	

X-28
SHEET 79 OF 80

SCALE
1:100 HORIZONTAL
1:100 VERTICAL

Metric

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL
	ROAD NO: F3K300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: LRS
	PROJECT NO: RSTPL-5904(033)	EA NO.: 01-279634	DRAWN BY: JAB
	CONTRACT NO.: 980700	PPNO: 01-2001R	REVIEWED BY: RWB
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\CDSN-X29.DWG		APPROVED BY: CJW
	PLOT DATE: 03/10/2008		

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

OLD ARCATA ROAD

CROSS SECTIONS – "D" LINE
STA 'D' 1+000 TO 1+200

X-29

SHEET 80 OF 80

NOTE: ONLY DITCH PORTION SHOWN, OTHER DESIGN FEATURES NOT SHOWN (ROUNDABOUT, ROADWAY, ...)

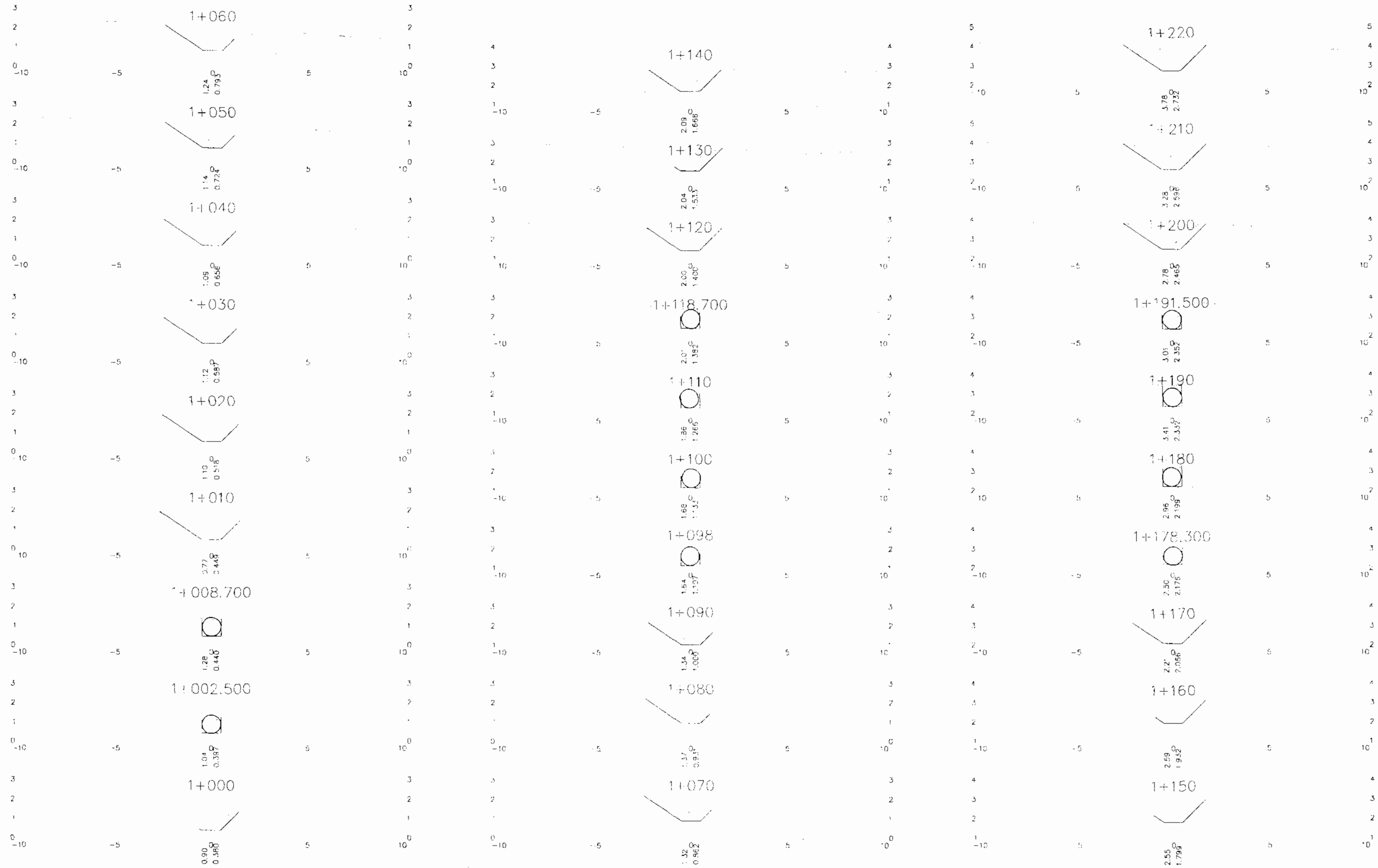


EXHIBIT NO. 6

APPLICATION NO.

1-86-200-A4 - HUMBOLDT CO. PUBLIC WORKS DEPT.

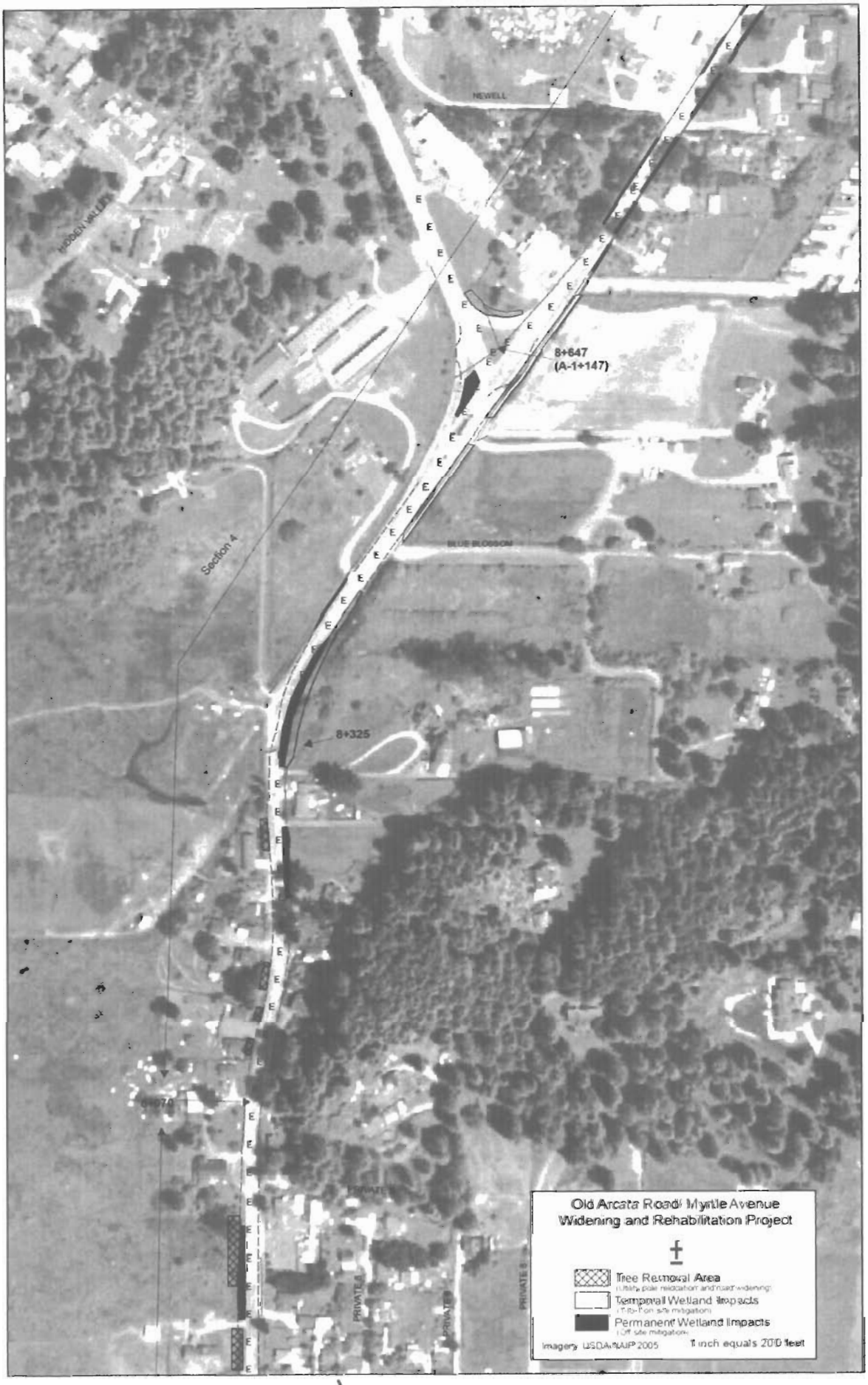
AERIAL PHOTOS SHOWING TREE REMOVAL & WETLAND IMPACT AREAS (1 of 6)

7+072
REDMOND
PRIVATE B
Section 2
6+453
6+240
PRIVATE B
Old Arcata Road/ Myrtle Avenue
Widening and Rehabilitation Project
Tree Removal Area
Temporal Wetland Impacts
Permanent Wetland Impacts
Imagery: USDA NAIP 2005
1 inch equals 200 feet

2 of 6


PRIVATE 8
PRIVATE 8
PRIVATE 8
OLD HANSON
7+718
7+844
7+621
Section 3
7+362
PRIVATE 8
QUAIL VALLEY
UNN 7
7+072
Old Arcata Road/ Myrtle Avenue
Widening and Rehabilitation Project
Tree Removal Area
(Utility pole relocation and road widening)
Temporal Wetland Impacts
(1-to-1 on site mitigation)
Permanent Wetland Impacts
(Off site mitigation)
Imagery: USDA NAIP 2005
1 inch equals 200 feet

346

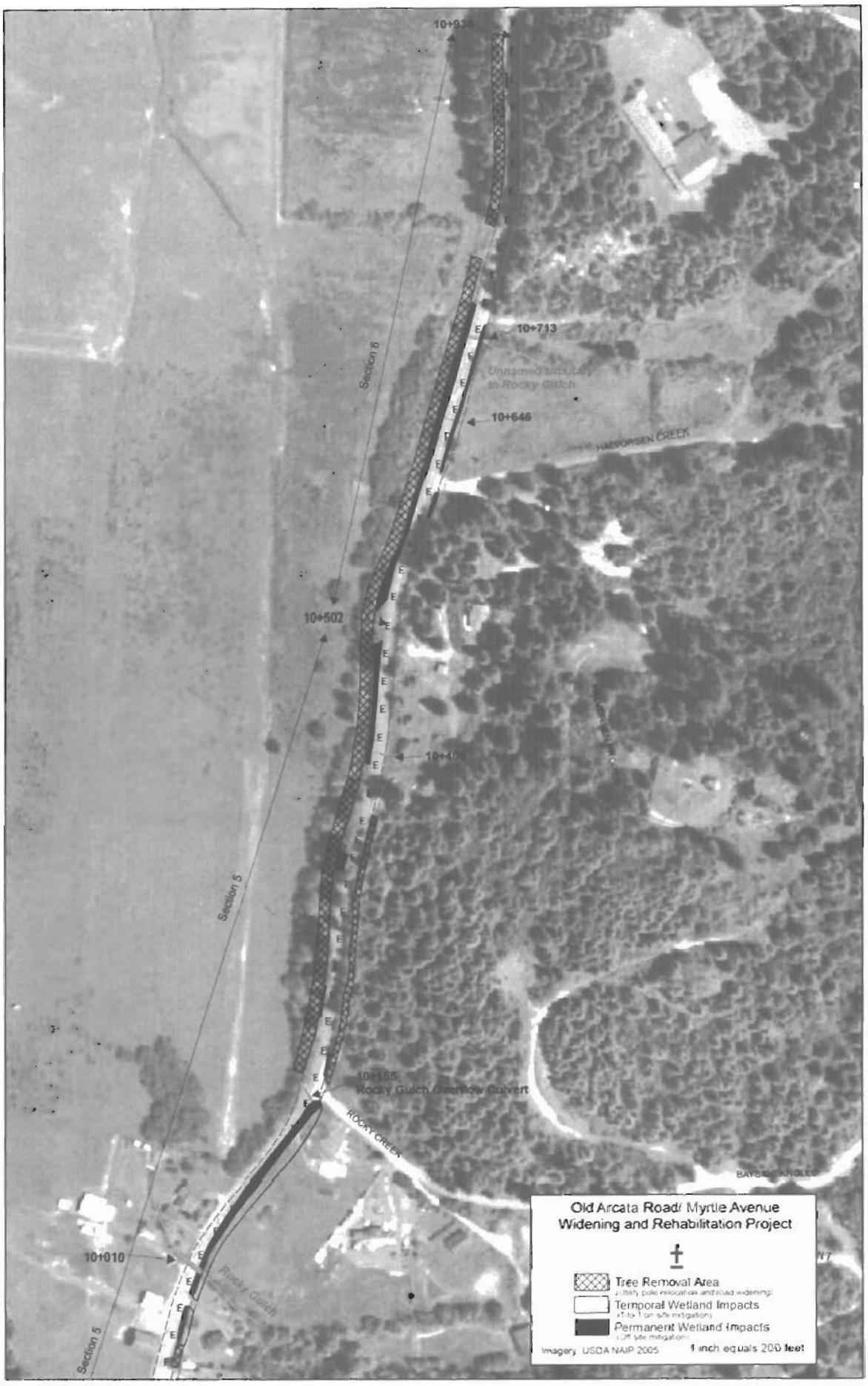

NEWELL
HOBGEN HALL
8+647
(A-1+147)
Section 4
BLUE BLOSSOM
8+325
PRIVATE
PRIVATE
PRIVATE
Old Arcata Road/ Myrtle Avenue
Widening and Rehabilitation Project
Tree Removal Area
(Utility pole relocation and road widening)
Temporal Wetland Impacts
(Trib-Pon site mitigation)
Permanent Wetland Impacts
(Off site mitigation)
Imagery USDA/NAIP 2005
1 inch equals 200 feet

4 of 6

4 of 6


Section 5
Section 4
9+602
9+445
PRIVATE 2
PRIVATE 3
INDIANOLA MOBILE
Old Arcata Road/ Myrtle Avenue
Widening and Rehabilitation Project
Tree Removal Area
(Utility pole relocation and road widening)
Temporal Wetland Impacts
(1 to 1 on site mitigation)
Permanent Wetland Impacts
(Off site mitigation)
Imagery USDA NAIP 2005
1 inch equals 200 feet

546


10+938
10+713
10+646
10+502
10+010
Section 8
Section 5
Section 5
Unnamed tributary to Rocky Gulch
HANSEN CREEK
Rocky Gulch Overflow Culvert
ROCKY CREEK
Rocky Gulch
Old Arcata Road/ Myrtle Avenue
Widening and Rehabilitation Project
Tree Removal Area
Temporal Wetland Impacts
Permanent Wetland Impacts
Imagery: USDA NAIP 2005
1 inch equals 200 feet

696

IV. Environmental Setting

A. DESCRIPTION OF THE BIOLOGICAL COMMUNITIES

Biological communities in the study area at the project site were identified and mapped as eight distinctive vegetation community types. Unvegetated areas of open water (other waters of the United States) in Ryan Slough and in an upstream tributary of Fay Slough constitute an additional biological community type. The upland biological community types mapped in the study area are north coast coniferous forest, non-native perennial grassland, landscape, and ruderal. The wetland and stream community types mapped in the study area are riparian forest, coastal scrub, freshwater marsh, coastal prairie/seasonal wetland, and waters of the United States. See Figure 8 (sheets EW 1–35) for locations of each community type within the project site. The community types were mapped to a distance of 15 meters on each side of the existing center line of Old Arcata Road/Myrtle Avenue. Each of the biological communities is discussed in further detail below, with upland types preceding wetland types. Scientific names of species observed during field surveys are provided in Appendix E for plants and in Appendix F for wildlife.

North Coast Coniferous Forest

North coast coniferous forest occurs along both sides of Old Arcata Road, but is more common along the upslope eastern side. This community type is a second-growth forest dominated by redwood, Sitka spruce, Douglas-fir, and grand fir. Although trees up to 5 feet dbh occur within the project site, most are less than 2 feet dbh. A large first-growth redwood stump surrounded by second-growth trees occurs at the base of the hill south of Ryan Slough. Understory shrub species commonly found in this community type include hazelnut, rhododendron, huckleberry, currant, salal, cascara, sword fern, and bracken fern. Understory density varies, but is generally more dense in the northern portions of the project site.

North coast coniferous forest habitats provide food, cover, and special habitat elements for many wildlife species. Common species that occupy north coast coniferous forest include American robin, brown creeper, scrub jay, dark-eyed junco, downy woodpecker, Pacific slope flycatcher, violet-green swallow, and douglas tree squirrel. Moreover, a variety of sensitive wildlife species are found in this habitat. Species such as northern red-legged frog, ensatina, osprey, ringtail, fisher, and marbled murrelet show a marked preference for various north coast coniferous forest habitat phases and stages (Mayer and Laudenslayer 1988).

Non-Native Perennial Grassland

Non-native perennial grassland occurs primarily on the east side of Old Arcata Road. This community type is most extensive between landscaped areas around homes and on vacant lots. Non-native perennial grassland is similar to the coastal prairie/seasonal wetland community type, but does not flood for extended periods during the wet season. The dominant grass species include sweet vernal grass, bentgrass, orchard grass, Kentucky fescue, and perennial ryegrass.

The composition of wildlife species in grassland habitats is limited because of a lack of diversity in vegetation and moderate disturbance from mowing. Species that frequent this habitat include Brewer's blackbird, western meadowlark, red-tail hawk, and American crow. Species that occupy this habitat include mourning dove, black-tailed hare, and coyote.

Landscape

Homes are present along much of the project alignment, and most are surrounded by landscape plants. Landscaping includes turf grass, trees, and a variety of herbaceous flowering plants and shrubs. Many of the tree species are native, including redwood, Douglas-fir, and Sitka spruce. Cultivated non-native trees also occur in this cover type, including poplar, white oak, English holly, apple, and Monterey pine.

Wildlife species commonly found in landscaped areas include Brewer's blackbird, American goldfinch, white-crowned sparrow, yellow-billed magpie, and mourning dove.

Ruderal

Ruderal vegetation occurs as an almost continuous band at the edge of pavement along Old Arcata Road and along the edges of side roads and some driveways. Weedy, non-native species dominate this community type. Typical species include annual grasses such as wild oat and soft chess, and forbs such as black mustard, bull thistle, teasel, pampas grass, wild carrot, sweet fennel, rough cat's-ear, bird's-foot trefoil, wild radish, common dandelion, white clover, and spring vetch.

The composition of wildlife species in ruderal habitats is similar to that described for non-native perennial grassland habitat.

Riparian Forest

This community type occurs along Ryan Slough and in several isolated locations farther north. Dominant riparian trees include red alder, shining willow, and arroyo willow. Understory species include blackberry, sedge, bulrush, and horsetail.

Riparian forest habitat provides food, water, and migration and dispersal corridors, as well as escape, nesting, and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Wildlife species associated with riparian forest habitat include western toad, rubber boa, black phoebe, and Anna's hummingbird. Common mammals that could occupy this habitat include raccoon, striped skunk, and Virginia opossum (Zeiner et al. 1990).

Coastal Scrub

Coastal scrub occurs throughout most of the roadside ditches in the project area. Himalayan blackberry and, less commonly, cut-leaf blackberry are dominant overstory species. Dominant herbaceous species include horsetail, umbrella sedge, other sedge species, small-fruit bulrush, penny-royal, and perennial grasses such as sweet vernal grass, Pacific reedgrass, and bentgrass.

The composition of wildlife species in coastal scrub habitats includes Pacific chorus frog, northern alligator lizard, spotted towhee, Bewick's wren, and golden crowned sparrow (winter visitor).

Freshwater Marsh

Freshwater marsh occurs within the OHWM of Ryan Slough and in an offstream channel north of the slough. Marsh in these areas may actually be slightly brackish due to tidal flow, and are dominated by tufted hairgrass. Freshwater marsh is present within other perennially wet sites in the project area: near "Three Corners" (the Freshwater-Kneeland Road/Old Arcata Road intersection), north of Quail Valley Road, at the road crossing of the tributary of Fay Slough, near the curve south of the Indianola Cutoff (Cox Corner), and at Rocky Gulch. Dominant plant species in the marsh community include cattail, bulrush, lady fern, and Himalayan blackberry. The marsh at Cox Corner also supports a dense willow scrub near the roadside.

Freshwater marsh provides foraging and nesting habitat for a variety of wildlife species. Species observed in this habitat outside the project area during the field survey include northern harrier, white-tailed kite, great blue heron, and black phoebe.

394

Coastal Prairie/Seasonal Wetland

Coastal prairie occurs in low-elevation pastures along much of the west side of Old Arcata Road. These pastures include floodplains and diked former tidelands that are poorly drained and continue to flood during the wet season. Dominant species include Pacific reed-grass, bentgrass, sweet vernal grass, spreading rush, and Himalayan blackberry.

The composition of wildlife species in coastal prairie habitats includes western toad, killdeer, red-winged blackbird, mallard, and cinnamon teal.

Open Water

Unvegetated areas of open water occur at Ryan Slough and the tributary of Fay Slough. Ryan Slough is tidally influenced, and the tributary of Fay Slough likely fluctuates slightly with the tides. No tide gauge information was available to quantify elevation changes in the sloughs; however, the fluctuation at Ryan Slough was visible due to exposed mudbanks and the changes in zonation of vegetation correlated with different tidal elevations. The tributary of Fay Slough is a tidally influenced incised channel approximately 2 meters wide surrounded by coastal scrub vegetation.

Open water, or riverine, habitat provides resting and escape cover for many species of waterfowl. Some bird species, such as gulls, terns, and osprey, hunt over open water. Other bird species, such as herons, belted kingfisher, and American dipper, forage primarily along the water's edge. Many species of insectivorous birds (swallows, swifts, flycatchers) catch their prey over water. Mammals that could be found in riverine habitat include river otter, mink, and muskrat (Mayer and Laudenslayer 1988).

B. DESCRIPTION OF THE EXISTING LEVEL OF DISTURBANCE AT THE PROJECT SITE

Most of the vegetation communities at the project site have been subject to some level of disturbance. The most severely disturbed areas have been scraped and are graveled or paved. The largest scraped or graveled areas include the two proposed construction staging areas. The coniferous forest is second-growth. This forest type has experienced little recent disturbance except within a section of the Bayside Knolls area on the east side of Old Arcata Road, where most of the trees have been removed within the last 2 years; this area is now ruderal vegetation. Most grassland, ruderal, and landscaped areas are mowed, as is the coastal scrub vegetation within many of the roadside ditches. Disturbed ditch vegetation is mowed regularly to maintain flow. The areas of riparian forest and freshwater marsh may have been altered in the past but currently appear to be undisturbed vegetation. Many of the coastal prairie/seasonal wetlands are grazed by cattle or horses.

Chapter 7. Alternatives to the Proposed Project

INTRODUCTION

CEQA requires a draft EIR to describe a reasonable range of feasible alternatives to the project or project location that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project. Additionally, the No-Project Alternative must also be analyzed in the draft EIR. The discussion of alternatives must focus on those alternatives that are capable of avoiding or substantially lessening the significant environmental effects of the proposed project, even if the alternative could impede to some degree the attainment of all the project objectives or would be more costly. The EIR also must identify the environmentally superior alternative other than the No-Project Alternative and explain why alternatives other than the proposed project were rejected.

Section 404 of the CWA requires project proponents to obtain a permit from the Corps for activities that involve placement of dredged or fill material into waters of the United States, including wetlands (33 United States Code [USC] 1344). The CWA requires the Corps, when issuing the permit, to follow the requirements of the EPA's guidelines for implementing Section 404(b)(1) of the CWA. EPA's guidelines prohibit discharges of dredged or fill material into waters of the United States if practicable alternatives to the proposed project exist that would have less adverse impacts on the aquatic ecosystem and that would not have significant adverse impacts on other biological resources.

To secure an individual permit from the Corps, the project proponent must demonstrate that the proposed project is the least environmentally damaging practicable alternative (LEDPA) and that no less environmentally damaging practicable alternative exists. The County prepared a Section 404(b)(1) alternatives analysis to provide information regarding the availability of practicable alternatives to the proposed project. Copies of the Section 404 (b)(1) alternatives analysis are available for review at the Humboldt County DPW during normal business hours.

ALTERNATIVES SCREENING PROCESS

Humboldt County DPW identified the following purposes of the project:

1. improve safety along the corridor, and
2. upgrade the road to current standards.

The primary need is to improve safety along the corridor for motor vehicles, pedestrians, and bicyclists. The documented accident rate in the project area averages around 14 accidents per year. Most accidents occur during daylight hours, with "hit object" being the most common type of accident. Most of the accidents result in property damage and injuries. There also have been three fatalities within the last 10 years. There is a need to reduce the number of injury and fatal accidents in the corridor.

The secondary reason is to bring the road up to current County standards. The sections of roadway that are proposed for widening were last improved in 1946 and have travel lanes varying in width between 10 and 12 feet, inadequate or nonexistent shoulders, poor sight distance on curves, non-standard intersections, and ditches and power poles close to the edge of pavement. The substandard conditions increase the accident potential when drivers are confronted with an emergency and have no room to recover.

Given the specific nature of the project (widening an existing road) and the project's purpose and need, consideration of off-site alternatives is not practicable. Therefore, all of the alternatives considered assumed that Old Arcata Road/Myrtle Avenue would remain on its current alignment. This assumption minimizes unnecessary impacts on sensitive species and habitats associated with widening to the west (wetlands) or widening to the east (rolling hills).

At the beginning of the project, the County tried to identify alternatives that would achieve the purpose and need while recognizing the constraints imposed by various resources in the project area. The following factors were considered in developing alternatives.

1. The first factor considered was the size of the lots and the location of residences. A number of houses front Old Arcata Road/Myrtle Avenue and have small front yards. The County attempted to minimize right-of-way take from these properties to avoid making small front yards even smaller.

2. The second factor considered was the age of the structures on the property and the applicability of Section 4(f) of the Department of Transportation Act. A number of properties within the project limits have been determined eligible for listing in the NRHP. These properties are located at various points along both sides of the existing road. At two locations there are eligible historic properties on both sides of the road. The County attempted to minimize right-of-way take from historic properties deemed eligible for listing in the NRHP in order to comply with the requirements of Section 4(f) of the Department of Transportation Act, 49 USC 303. Section 4(f) stipulates that the Secretary of Transportation may not approve the use of land from a historic site for a transportation improvement unless there is:

    a. no feasible and prudent alternative to using that land, and

    b. the project includes all possible planning to minimize harm to the historic site resulting from such use.

3. The third factor the County considered was the location of jurisdictional wetlands throughout the project area. Jurisdictional wetlands are found on both sides of the road along a few portions of the project route. The County attempted to minimize impacts on jurisdictional wetlands whenever feasible.

ALTERNATIVES CONSIDERED AND REJECTED

No-Project Alternative

The No-Project Alternative was identified by the County early in the process. If the proposed project is not constructed, none of the impacts identified in the EIR would occur. The substandard features of the existing roadway will remain in place. As traffic growth occurs in the area, the performance of the Myrtle Avenue and Old Arcata Road segments will continue to degrade. Accidents and travel times will increase; the need for improvement will remain, and the project purpose will not be satisfied.

Improve the Road Without Affecting Wetlands

Impacts on wetlands have been identified as a significant impact associated with the project. Therefore, the County attempted to identify a roadway project that would achieve the project purpose and need (improve safety along the corridor and upgrade the road to current standards) without affecting wetlands. There is no project design that would achieve the project purpose and need without affecting wetlands. The County has, however, avoided and minimized wetland impacts to the maximum extent feasible.

Construct a New Facility on A New Location

A new roadway location that avoids any impacts on wetlands would involve one of two possible traffic service scenarios:

- **Retain the existing roadway for local traffic service.** This would require the County to maintain two facilities in the same corridor, thus increasing the maintenance burden. A new road on a new alignment west of the existing road would result in much greater impacts on wetlands. A new road on a new alignment to the east is not feasible due to the geography, which would necessitate passing over mountains and valleys and would require a much higher level of funding.

- **Remove the existing roadway.** This would involve the cost of obliterating the existing road and developing new access for more than 100 parcels of land within the project limits.

It is not feasible and prudent to avoid impacts on wetlands by constructing a road on a new alignment because such an alternative would result in substantial adverse social, economic, and environmental impacts; and because the problems, impacts, and costs would be of extraordinary magnitude compared with the impacts on wetlands.

Construct the Project With Retaining Walls

The County considered constructing the project with retaining walls along the jurisdictional features in order to minimize impacts on wetlands. This alternative was rejected due to project length and the cost of constructing retaining walls along half the alignment. Excavations for the retaining walls would also increase the temporary impacts on wetlands.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative is the No-Project Alternative because no impacts would occur under this alternative. The No-Project Alternative also, however, would not achieve the project purpose and need. The proposed project, as designed, avoids wetland impacts to the maximum extent possible. To completely avoid wetland impacts would require either not implementing the project or using a different alignment that would result in even greater environmental impacts. Therefore, if the project is to be implemented, the proposed alignment is the environmentally superior alternative. A corollary benefit of the project is the proposed replacement of substandard culverts that cross the road in three locations. The new culverts are designed as fish passage culverts that meet NMFS design criteria.

494

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
NATURAL RESOURCES DIVISION

1106 SECOND STREET
EUREKA, CA 95501-0579
707.445.7741 / FAX 445-7409

SUMMARY

Fay Slough Wetland Mitigation Bank – Account Summary
March 7, 2008

The following is summary of the account information regarding the Fay Slough Wetland Mitigation Bank. This information can also be found, along with other pertinent information, in the 2001 monitoring report.

The total acres of freshwater wetlands created at the Fay Slough Wetland Mitigation Bank as a result of actions taken by the County in 1992, based on the assessment presented in the 2001 monitoring report, were 10.67 acres. The total wetland mitigation credits available at the site, therefore, were 10.67. See Table 1 for a summary of the accounting record.

In August, 1993, two acres of wetland mitigation credits were sold to the City of Eureka to use as compensatory mitigation for future unavoidable impacts to wetlands resulting from City of Eureka Public Works projects. Support from both the County and the City was critical in the California Coastal Commission's decision to approve funding for the purchase of the Fay Slough Wildlife Area property by the California Department of Fish and Game. In lending their support, both the County and the City believed that the work performed at the site could be used as compensatory mitigation for their respective Public Works projects.

To date, the County has used a total of 0.73 acres of wetland mitigation credits. These credits were used as off-site mitigation for Phase 1 and Phase II of the Elk River Road widening project. On October 10, 1990, the Corps issued permit #18268N21 to the Humboldt County Public Works Department for the Elk River Road widening project (covering Phases 1 and 2), authorizing the fill of 0.89 acres of seasonal wetland occurring within the new road alignment. The Special Conditions of permit #18268N21 called for 1:1 mitigation for wetland impacts as follows: (1) on-site: the creation of 0.17 acres of tidally influenced wetlands on the east side of Elk River Road; and (2) off-site: the creation of 0.73 acres of freshwater seasonal wetlands at the Department of Fish and Game's Fay Slough Wildlife Preserve. Corps staff attended a field trip to the Fay Slough Wildlife Preserve in the summer of 1990, viewed the mitigation area proposed, and approved it.

The Elk River Road widening project involved two construction phases. The mitigation specified in the permit was for the entire project, both Phase 1 and Phase 2. Phase 1 was constructed in the summer of 1992. Off-site mitigation attributable to Phase 1 impacts amounted to 0.04 acres. Phase 2 was not completed due to an interruption in project funding and the necessity to divert limited funds to disaster repair work during the period 1992-2000.

Funding for the completion of Elk River Road improvements became available in 2000. Phase 2 was constructed and completed in the summer of 2002 . A total of 0.69 acres of off-site mitigation was required to compensate for the unavoidable wetland impacts associated with Phase 2.

Considering the mitigation credits sold to the City of Eureka and the mitigation credits needed to complete the Elk River Road project, the remaining balance in the Fay Slough Wetland Mitigation Bank account is 7.94 acres. It is anticipated that the Final Phase of the Old Arcata Road /Myrtle Avenue Reconstruction and Widening Project will require 2.19 acres of off-site mitigation to compensate for unavoidable wetland impacts. The remaining balance after the Old Arcata Road project is completed will be 5.75 acres.

Table 1: Fay Slough Wetland Mitigation Bank – Account Summary 1992 - 2008

Old Arcata Road Widening Project Post Mile 3.77 to 6.75
Fay Slough Wetland Mitigation Bank -- Account Summary

Date of Transaction	Project Name	Regulatory Agency Requiring Mitigation	Date of Authorization	Acres of Mitigation Required	Mitigation Credits Balance (acres)	Costs or Payments (<Paid>, Received)	Dept. Fish & Game Fee[1]
6/1/92	Total Mitigation Credits Available[2]	N/A	6/7/2001[3]	N/A	10.67	<$109,914.55>[4]	N/A
8/8/93	Sale of Mitigation Credits to City of Eureka	N/A	4/19/1993	2.00	8.67	$19, 004.22	$5,600.00
7/1/92	Elk River Road - Phase I	Corps of Engineers	11/19/1991	0.04	8.63	N/A	$112.00
6/1/02	Elk River Road - Phase II	Corps of Engineers	6/11/2001	0.69	7.94	N/A	$1,932.00
3/1/08	Old Arcata Road - Final Phase	All	Pending	2.19	5.75	N/A	$6,132.00

[1] A fee in the amount of $2800.00 per acre is to be paid to the Department of Fish & Game as agreed upon in the Letter of Understanding signed in 1990.

[2] The total mitigation credits available are based on the acres of wetland creation achieved at the site as described in the Wetland Mitigation Monitoring Report for the Fay Slough Mitigation Bank, March 2001.

[3] A confirmation on the delineation of created wetlands at the Fay Slough Mitigation Bank was confirmed by the Corps of Engineers via a map and letter received by the County on 6/07/2001.

[4] The total cost of construction for the Fay Slough Wetland Mitigation Bank in 1992. Originally, 11.57 acres of wetlands were expected to be established upon completion, however, only 10.67 acres were formed at a cost of $10,301.25 per acre. The City of Eureka paid $19,004.22 based on the expected acreage of 11.57 ($9,502.11/acre).

COUNTY OF HUMBOLDT

DEPARTMENT OF PUBLIC WORKS
NATURAL RESOURCES DIVISION

1106 SECOND STREET
EUREKA, CA 95501-0579
707.445.7741 / FAX 445-7409

DISCUSSION OF OFF-SITE WETLAND MITIGATION

Myrtle Avenue / Old Arcata Road Improvements Project
Humboldt County Department of Public Works

May 5, 2008

Discussion

The Coastal Commission has requested additional information regarding impacts to wetlands and clarification on the mitigation proposed to be debited off-site at the Fay Slough Wetland Mitigation Bank (FSWMB). The primary wetland type that will be impacted due to the Myrtle Avenue / Old Arcata Road Improvements Project (OAR) is roadside ditches. In areas where roadside ditches must be filled to accommodate the road widening, new ditches are proposed where feasible; however, there are areas where constraints on the road alignment preclude avoidance or on-site replacement.

Areas of permanent wetland impacts (ditches being filled) and temporary impacts (ditches being filled and then re-created) were shown on the wetland impact area map submitted to the Commission on February 25, 2008. At that time, the County proposed to mitigate permanent wetland impacts (2.19 acres) off-site at the Fay Slough Wetland Mitigation Bank, and mitigate temporary wetland impacts (1.39 acres) on-site by creating new roadside ditches. The information pertaining to on-site mitigation was discussed in the document *Re-evaluation of On-site Wetland Mitigation,* which was sent to the Commission on April 22, 2008. That document intended to clarify the overall wetland impacts that would be occurring on-site due to the OAR project. After further analysis, it was determined that on-site mitigation would cause an additional 0.34 acres of permanent impacts to wetlands due to the disturbance of existing wetlands in order to create new wetlands (re-established ditches). Therefore, the total amount of off-site mitigation requested for permanent impacts related to the entire OAR project is 2.19 acres (areas with no new ditch/wetland creation) plus 0.34 acres (areas with new ditch creation) for a total of 2.53 acres.

Types of wetlands that will be impacted along the OAR project route were delineated by Jones & Stokes (2001) and are described in the 2001 Natural Environment Study Report (NES). Delineation of wetlands was verified by the Corps of Engineers (2002 & 2008). Based on discussions with Commission staff, the County has re-analyzed the areas of temporary and permanently impacted wetlands and has summarized the information below in Tables 1. Most of this information is

contained in the NES report and also in the *Re-evaluation of On-site Wetland Mitigation* document.

Table 1: Information regarding permanent wetland impacts along the OAR project route.

Old Arcata Road Widening Project Post Mile 3.77 to 6.75 Permanent Wetland Impacts			
Section Number & Station Numbers	**Feature Type***	**Permanent Impacts From Ditch Filling & Road Widening (Acres)**	**Permanent Impacts From Ditch Relocation (Acres)**
1 (5+900 - 6+240)	Coastal Scrub	0.04	0.01
2 (6+240 - 7+072)	Coastal Scrub	0.16	0.09
	Coastal Prairie Seasonal Wetland	0.08	0.00
3 (7+072 - 8+070)	Coastal Scrub	0.29	0.00
	Coastal Prairie Seasonal Wetland	0.22	0.00
4 (8+070 - 9+602)	Coastal Scrub	0.54	0.07
	Freshwater Marsh	0.20	0.08
5 (9+602 - 10+502)	Coastal Scrub	0.25	0.06
	Freshwater Marsh	0.08	0.03
6 (10+502 - 10+930)	Coastal Scrub	0.29	0.00
	Coastal Prairie Seasonal Wetland	0.02	0.00
	Freshwater Marsh	0.02	0.00
	Totals	**2.19**	**0.34**
	Total Off-Site Mitigation	**2.53**	

** Please refer to the 2001 NES (Jones and Stokes) and/or EIR for descriptions of wetland types*

Summary of Total Wetland Impacts

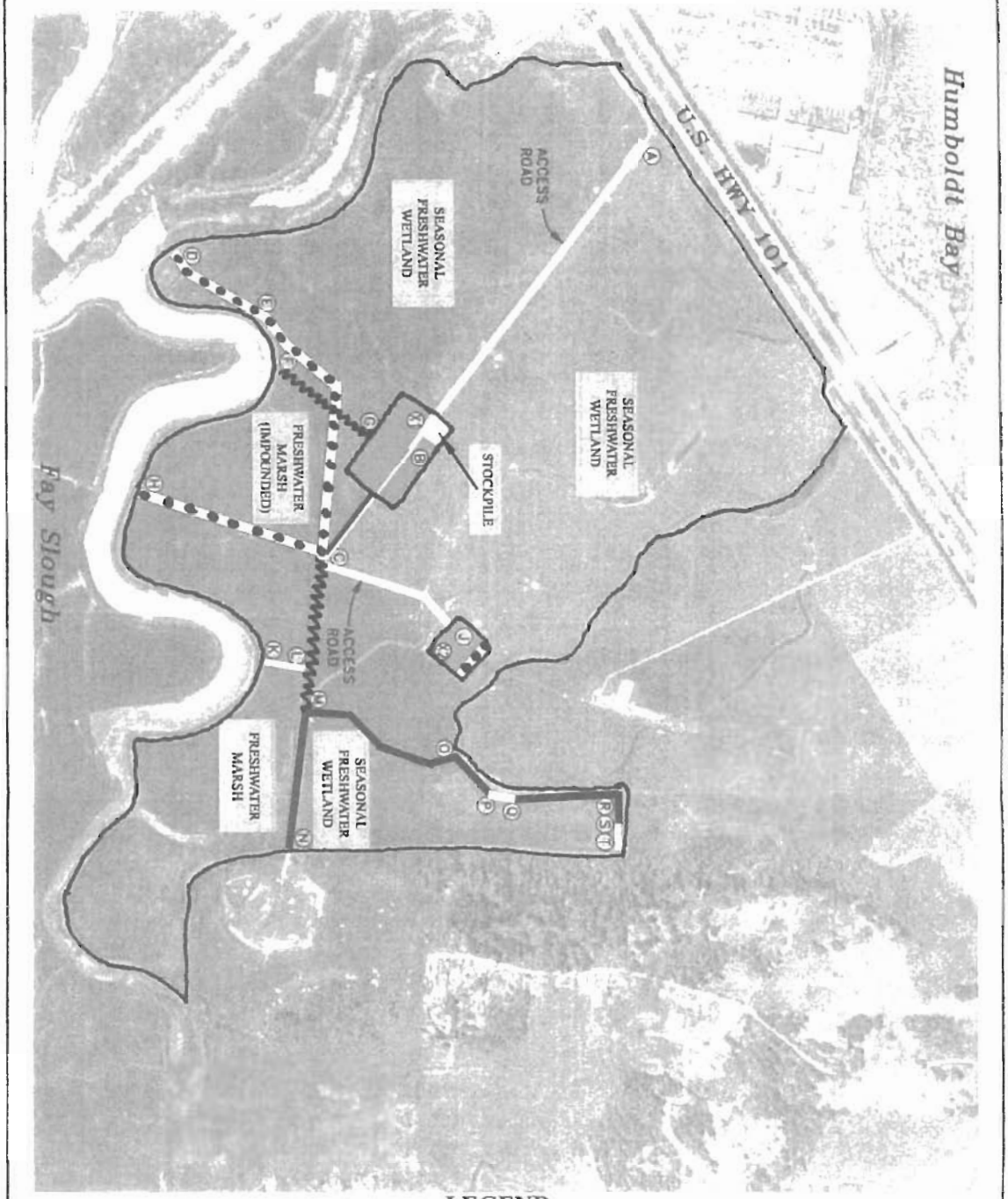
To summarize, 2.19 acres of permanent impacts and 1.39 acres of temporary impacts to wetlands (3.58 acres of total affected area) were originally proposed to occur due to construction activities related to the road improvements project. These two areas are shown as black cross-hashed areas for permanent impacts, and yellow cross-hashed areas for temporal impacts on the wetland and tree impact area map (submitted with CDP application on February 25, 2008). The permanent impacts consist of the filling of roadside ditches and adjacent wetland areas related to road widening and realignment. A majority of the permanent impacts occur in an area (north of Indianola Cutoff) where road-side ditches along portions of both sides of the roadway will need to be filled and replaced with storm drain pipes and drain inlets. There is no other alternative due to the roadway through this section being narrow with private property and structures adjacent to the roadway. County right-of-

way is also constrained in this area.

The information pertaining to on-site mitigation was discussed in the document *Re-evaluation of On-site Wetland Mitigation,* which was sent to the Commission on April 22, 2008. Table 1 above takes the findings of that document (that there is an additional 0.34 acres of permanent impacts) and incorporates them along with the original 2.19 acres of permanent impacts to get a total of 2.53 acres to be mitigated off-site at the FSWMB. Table 2 shows the types and amounts of wetlands permanently impacted along the OAR project route. Also included in the table are the types and amounts of wetlands to be debited from the Fay Slough Mitigation Bank.

Table 2: Wetland information for both the Old Arcata Road Project and the Fay Slough Mitigation Bank.

Old Arcata Road Widening Project Post Mile 3.77 to 6.75	
Wetland Information Regarding The Old Arcata Road Widening Project	
Wetland Type -- OAR Project Route	**Permanent Impacts From Ditch Filling & Road Widening (Acres)**
Coastal Scrub	1.80
Coastal Prairie Seasonal Wetland	0.32
Freshwater Marsh	0.41
Totals	***2.53***
Wetland Information Regarding The Fay Slough Mitigation Bank	
Wetland Type -- Fay Slough Mitigation Bank	**Amount of Wetlands to be Debited From Fay Slough Mitigation Bank (Acres)**
Seasonal Freshwater Marsh; (C-E; C-H)*	1.58
Agricultural Wetland; (D-E; X2)*	0.95
Totals	***2.53***
** Refers to created wetland areas identified in 2001 monitoring report & as shown on FSWMB Map*	



LEGEND

- FAY SLOUGH WILDLIFE AREA BOUNDARY
- UPLAND AREAS (ROADS & LEVEES)
- CREATED WETLAND AREAS SOLD TO CITY OF EUREKA IN 1992 (2.01 ACRES)
- REMAINING AREAS OF WETLANDS CREATED (5.40 ACRES) – 05/2008
- CREATED WETLANDS TO BE DEBITED FOR OLD ARCATA ROAD PROJECT 2008 (2.53 ACRES)
- DEBITED WETLANDS FOR ELK RIVER ROAD PROJECT 1992 & 2002 (0.73 ACRES)
- © REFERENCE POINTS & AREAS

NORTH

SCALE: 1" = 600'

PURPOSE: FAY SLOUGH WETLAND MITIGATION MONITORING

MAP INTENDED FOR FAY SLOUGH WETLAND BANK ACCOUNTING RECORDS 05/2008

FAY SLOUGH WETLAND MITIGATION BANK

0 600 1200

SCALE

HUMBOLDT COUNTY
DEPT. OF PUBLIC WORKS
1106 SECOND STREET
EUREKA, CA 95501

9/18/1991 PLAN OF PROPOSED WETLAND CREATION

A: EUREKA, CA

B: EAST OF U.S. 101 HUMBOLDT COUNTY, CA

FIGURE 1

L:\PROJECTS\FAYSLOUGH\FIG4.DWG

646

DEPARTMENT OF FISH AND GAME
NORTHERN REGION
619-2nd STREET
EUREKA, CA 95501
(707) 445-6493
(707) 445-6684 FAX

EXHIBIT NO. 10
APPLICATION NO.
1-86-200-A4 - HUMBOLDT CO. PUBLIC WORKS DEPT.
CDFG CONCURRENCE WITH THE FSWA WETLAND MITIGATION BANK ACCOUNT SUMMARY (1 of 4)

May 6, 2008

Mr. Hank Seemann
County of Humboldt
Department of Public Works
1106 Second Street
Eureka, CA 95501

Re: Fay Slough Wildlife Area Wetland Mitigation Bank

Dear Mr. Seeman,

The California Department of Fish and Game (Department) received your letter dated April 8, 2008, and attachments regarding the Fay Slough (*Wildlife Area*) Wetland Mitigation Bank (mitigation bank).

You are correct as outlined in the 1990 Letter of Understanding (LOU), that the mitigation bank was established to offset the incidental and unavoidable filling of wetlands associated with road improvement projects conducted by the Humboldt County Public Works Department (County). The Fay Slough Wetland Mitigation Monitoring report that was submitted to Department in 2001 thoroughly described the amount and types of wetlands that were created as a result of the efforts taken by the County in 1992. Based on the wetland monitoring report, 10.67 acres of wetlands were created which included freshwater marsh and seasonal freshwater wetlands.

Our records are in agreement with the Account Summary that you submitted in regards to the balance, and therefore, a total of 7.94 acres of mitigation credits are currently available to the County for future Public Works projects. It is our understanding that the County will be requesting (pending permit approvals) to use 2.19 acres of available credit (1:1 ratio) for the permanent impacts to wetlands as a result of the Myrtle Avenue / Old Arcata Road Improvements Project. It is also our understanding that the County will pay the Department the appropriate fee ($2,800/acre) for using credits from the mitigation bank as agreed upon in the 1990 LOU. Payment is due upon completion of the Project.

The Department concurs with the request to use 2.19 acres as a result of implementation of the Myrtle Avenue / Old Arcata Road Improvements Project. This

approval does not absolve the County from securing any other necessary authorizations from the Department for this Project.

Should you have any questions, please do not hesitate to contact me at (707) 441-5789 or email kkovacs@dfg.ca.gov .

Sincerely,

KKovacs

Karen Kovacs
Senior Environmental Scientist Supervisor

ec: Robert Merrill, CA Coastal Commission
William Condon, Department of Fish and Game, Northern Region

LETTER OF UNDERSTANDING

Between the California Department of Fish & Game
and the County of Humboldt for the Fay Slough Wildlife Area

The purpose of this Letter of Understanding is to clarify items agreed to between the County of Humboldt and the Department of Fish & Game as related to the Fay Slough Wildlife area.

Prior to the Wildlife Conservation Board acquiring the Mid-City Ranch, the Department of Fish & Game came before the Humboldt County Board of Supervisors requesting their support for placement of the Mid-City Ranch on the Coastal Commission's Acquisition Priority List. The Board of Supervisors granted their support conditioned on the County of Humboldt being granted the available wetland mitigation credits that could be generated on the Mid-City Ranch.

Bob Radivich of the Department of Fish & Game prepared a letter to the Department of Public Works stating that preliminary measurements showed about 6½ acres of potential wetland mitigation credits were available. The letter further stated this credit would be available to the County of Humboldt for County Public Works projects.

Following that letter, precise surveys were made of the site by staff of the Eureka office of the Department of Fish & Game and the County Department of Public Works, and it was discovered that actually 11.57 acres of wetland mitigation credits were available.

The Department of Public Works has agreed to remove portions of old dikes and road fills, and to construct about 500' feet of new dikes to allow phase 1 of the Fay Slough Wetland Enhancement Plan to be implemented.

Following construction of the two new dikes, the Department of Public Works has agreed to place material on the entrance road to create a new dike 20 feet wide an two feet high from the entrance gate near Highway 101 to the first set of ranch buildings.

The Department of Fish & Game has agreed to obtain the necessary permits to allow the Department of Public Works to proceed with this work. To date, they have secured all necessary permits except the Section 404 Permit from the U.S. Army Corps of Engineers. This permit should be forth coming in the very near future.

The Department of Fish & Game has agreed to provide two culverts at or near their future locations on the Fay Slough Wildlife area. The Department of Public Works has agreed to place the culverts in the proper location and cover them as part of the construction of the new dikes.

The County of Humboldt also agrees to pay the Department of Fish & Game $2,800 per acre for the 11.57 acre wetland mitigation area as it is needed for County Public Works projects.

This Memorandum will remain in effect until all of the wetland mitigation credits assigned to this 11.57 acres have been allocated.

ATTEST:

BRUCE RUPP
Clerk of the Board

By Dawn L. [illegible]
Deputy

Bonnie Neely, Chairman
Humboldt County Board of Supervisors

August 21, 1990
Date

Donald B Koch
Banky E. Curtis, Regional Manager
for California Department of Fish & Game

Sept 3 1990
Date

494

B 2

Attachment # 1

View: south, taken from point C, showing former railroad grade that was removed and is now impounded.

AREA: C-H

Pre-Project Description (1988): Railroad grade (1200' x 24')

Project Action (1992): The railroad grade was removed. This area is now impounded by DFG to 1' - 2' depths in the winter and spring.

Post-Project Description (2001): Seasonal freshwater marsh with areas of open water and clumps of emergent wetland plants. Managed for waterfowl and other aquatic wildlife species.

Sample Point #: C-H 16 Date Sampled: 3-15-01

Vegetation: Hydrophytic vegetation, dominated by common cattail (*Typha latifolia*-OBL), soft rush (*Juncus effusus*-OBL), spikerush (*Eleocharis macrostachya*-OBL), water parsley (*Oenanthe sarmentosa*-OBL), water foxtail (*Alopecurus geniculatus*-OBL), and Pacific silverweed (*Potentilla anserina*-OBL).

Soils: Clay soils with ponded water 4"- 8" deep.

Hydrology: Impounded to 1'-2' in winter and spring; excess water is released through floodgate to Fay Slough.

Wetland Determination (2001): Wetland

View: west, showing sample point C-E 13, levee constructed (right) and impounded freshwater marsh created (left).

AREA: C-E

Pre-Project Description (1988): Roadway (1600' x 35')

Project Action (1992): A 10-foot wide levee was constructed on the north side of the roadway to allow management of water levels in adjacent areas. The remaining 1600' x 25' of roadway was taken down to the elevation of the adjacent agricultural wetlands.

Post-Project Description (2001): Seasonal freshwater marsh. The levee is used to impound water to depths of 1'-2'. The C-E area is located at the pond margin. This area supports obligate wetland emergent plant species.

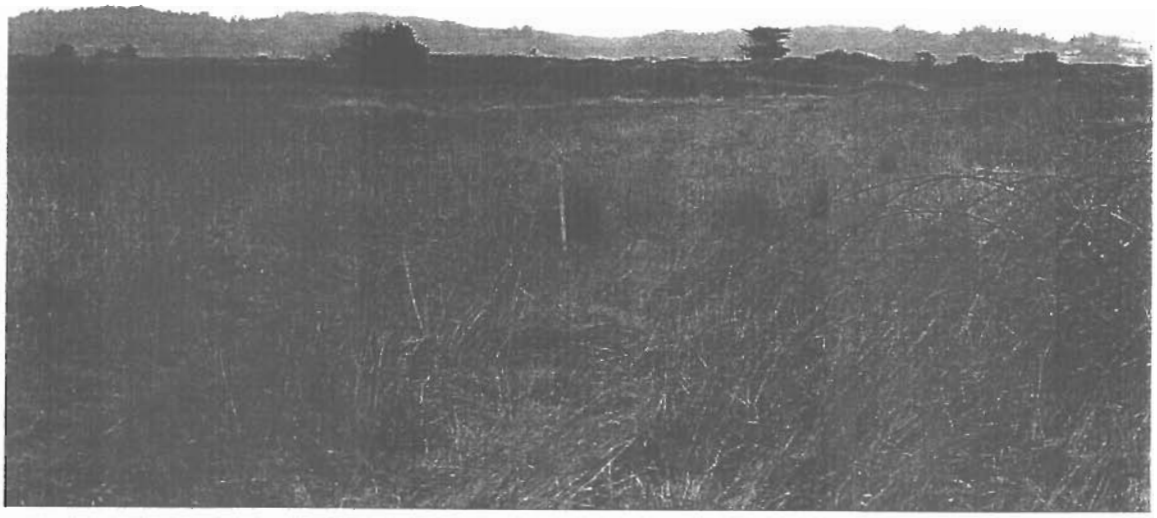
Sample Point #: C-E 13 Date Sampled: 3-15-01

Vegetation: Hydrophytic vegetation, dominated by water foxtail (*Alopecurus geniculatus*-OBL), with spikerush (*Eleocharis macrostachya*-FAC-).

Soils: Clay soil with standing water 4" deep.

Hydrology: Impounded to 1'-2' in winter and spring; excess water is released through floodgate to Fay Slough. Managed for waterfowl and other aquatic wildlife species

Wetland Determination (2001): Wetland



View: south, showing sample point D-E 15 and seasonal freshwater wetlands created.

AREA: D-E

Pre-Project Description (1988): Roadway (700' x 35')

Project Action (1992): The roadway was taken down to the elevation of the adjacent pasture and the ground surface was scarified to encourage natural revegetation by wetland plant species.

Post-Project Description (2001): Seasonal freshwater wetland. Low-elevation, flat grassland with high water table through much of the rainy season.

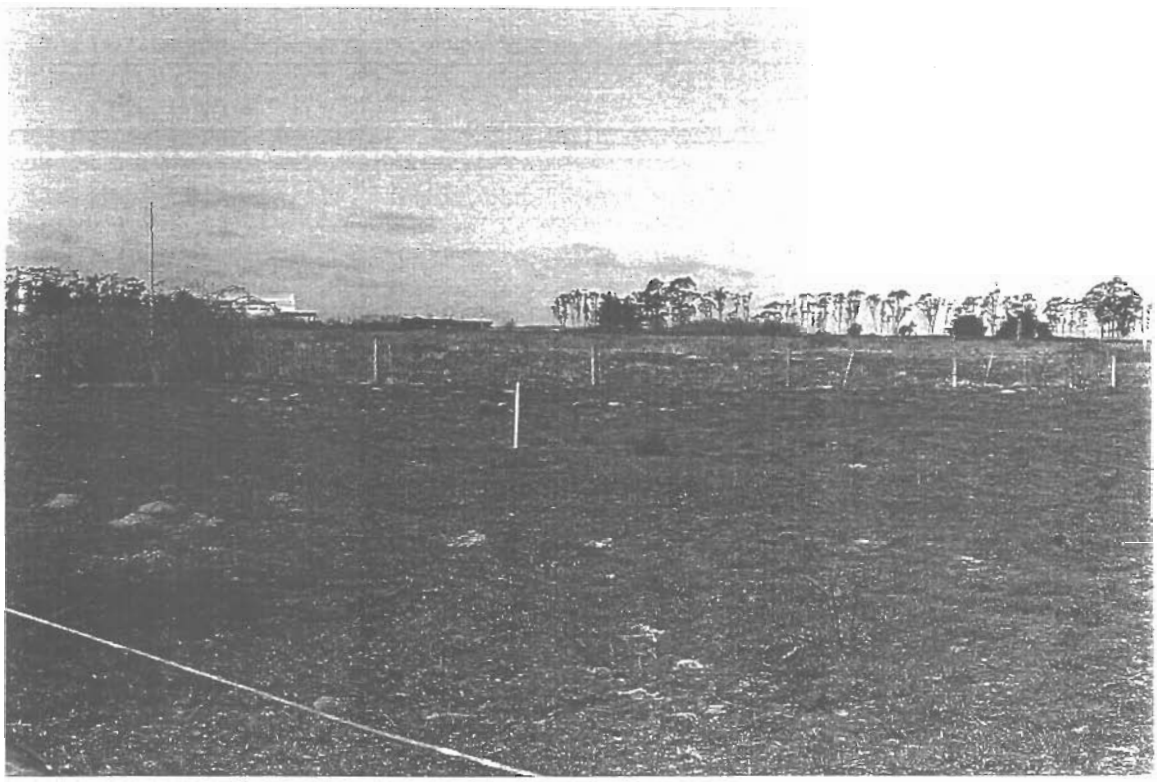
Sample Point #: D-E 15 Date Sampled: 3-15-01

Vegetation: Hydrophytic vegetation, dominated by velvet grass (*Holcus lanatus*-FAC), with sheep sorrel (*Rumex acetosella*-FAC-), birdsfoot trefoil (*Lotus corniculatus*-FAC), and soft rush (*Juncus effusus*-OBL).

Soils: Sandy fill material, dark yellowish brown (10YR 4/6) with dark yellowish brown mottles (10YR 4/4). Not all of the fill from the former roadbed was removed, however, the elevation was taken down to grade with the adjacent seasonal wetland. Although hydric indicators have not fully developed in the fill material, it does appear that the area has wetland hydrology. Native clay material was encountered at 14".

Hydrology: Retains surface runoff in rainy season.

Wetland Determination (2001): Wetland



View: north, showing sample point X2-6 and seasonal freshwater wetlands created.

AREA: X2 (1 of 2 pages)

Pre-Project Description (1988): Building Complex (270' x 250')

Project Action (1992): All structures (except one barn) and associated fill were removed down to the elevation of the adjacent agricultural wetland. The area was allowed to revegetate naturally.

Post-Project Description (2001): Seasonal freshwater wetland. Low-elevation, flat topography with poorly drained soils, saturated through much of the rainy season.

Sample Point #: X2-6 Date Sampled: 3-08-01

Vegetation: Grazed, hydrophytic vegetation dominated by perennial ryegrass (*Lolium perenne*-FAC*) and velvet grass (*Holcus lanatus*-FAC), with occasional soft rush (*Juncus effusus*-OBL), white clover (*Trifolium repens*-FACU+) and English plantain (*Plantago lanceolata*-FAC-).

Soils: Clay. 0"-10": brown (7.5YR 4/2) with many, small strong brown (7.5 YR 4/6) mottles. 10"-14": pick up large, dark (2.5 Y 2.5/1) mottles. Low chroma, mottling, and soil texture are indicators of hydric soil conditions.

Hydrology: Retains surface runoff in rainy season; saturated soils or with standing water.

Wetland Determination (2001): Wetland

EXHIBIT NO. 12

APPLICATION NO.

1-86-200-A4

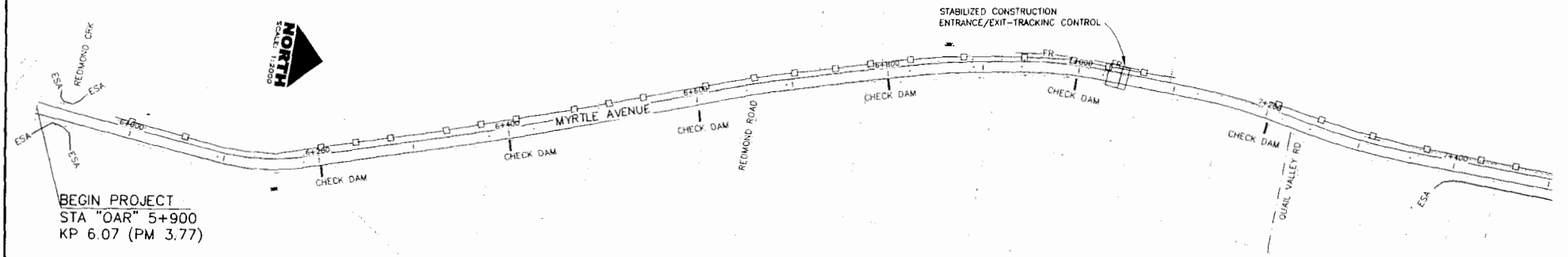
HUMBOLDT CO. PUBLIC WORKS DEPT.

PROPOSED MITIGATION MEASURES & BMPs (1 of 4)

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD		DESIGN SECTION R. W. BRONKALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NO: 136.300	KP (PM): 6.07-10.86 (3.77-6.75)	DESIGNED BY: URS	OLD ARCATA ROAD
	PROJECT NO: RSTPL-5904(033)	EA NO.: 01-276834L	DRAWN BY: JAB	CONSTRUCTION SITE BMPs DEPLOYMENT PLANS (D-PLANS)
	CONTRACT NO.: 880700	PPNO: 01-2001P	REVIEWED BY: KMS	
	DRAWING FILE NAME:	L:\PROJECTS\880700\ENG\[Conn-BMP1.DWG]Conn-BMP1	APPROVED BY: CJW	
	PLOT DATE: 1/17/2008			

D-1

SHEET OF 80

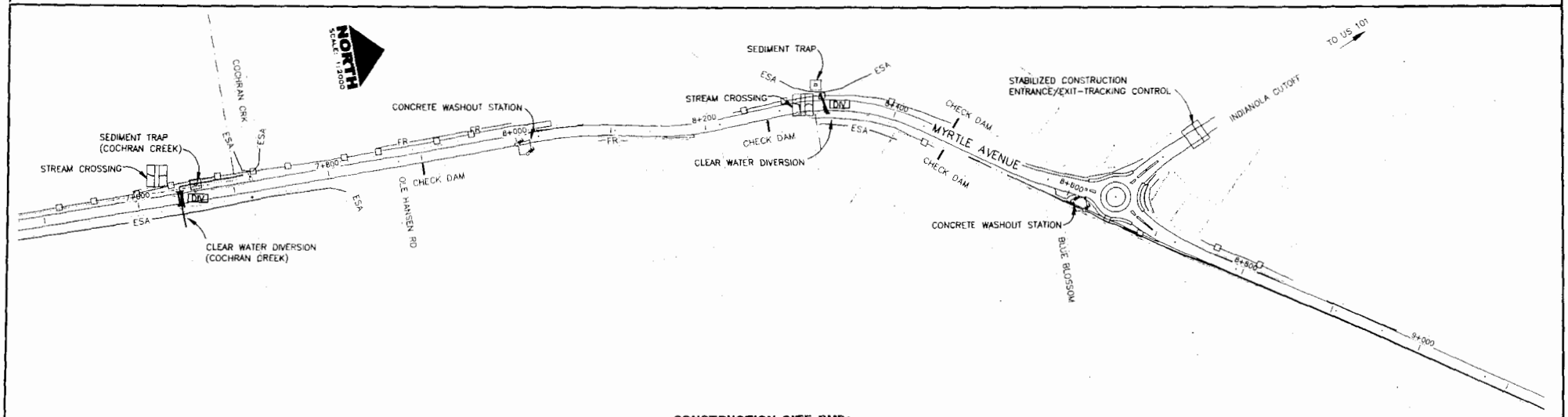


CONSTRUCTION SITE BMPs

SCALE: 1:2000

LEGEND

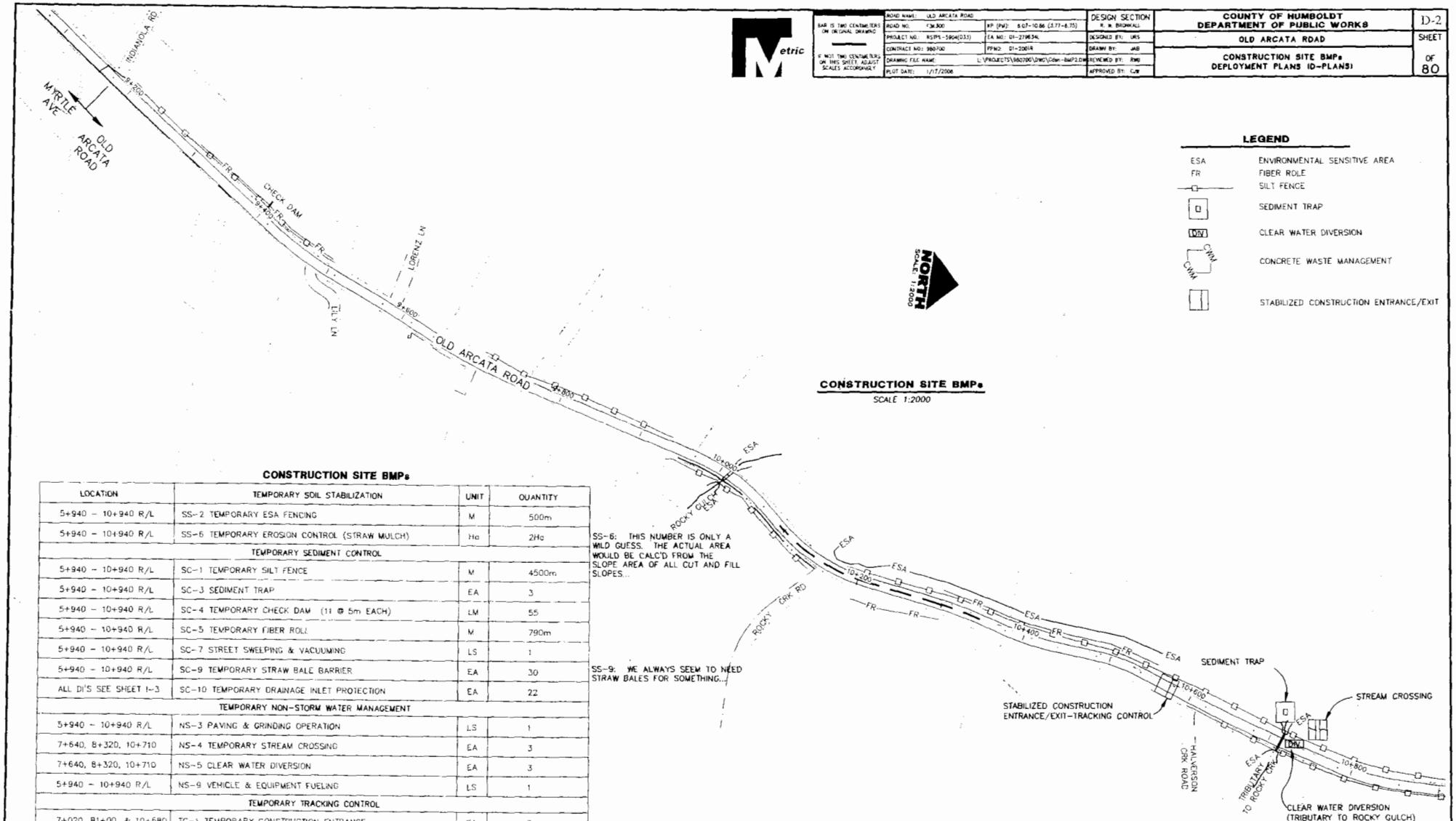
ESA	ENVIRONMENTAL SENSITIVE AREA
FR	FIBER ROLE
	SILT FENCE
	SEDIMENT TRAP
DIV	CLEAR WATER DIVERSION
CWM	CONCRETE WASTE MANAGEMENT
	STABILIZED CONSTRUCTION ENTRANCE/EXIT



CONSTRUCTION SITE BMPs

SCALE: 1:2000

BAR IS TWO CENTIMETERS ON ORIGINAL DRAWING	ROAD NAME: OLD ARCATA ROAD			DESIGN SECTION R. M. BROMHALL	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	D-2
	ROAD NO.: 434.300	KP (PM): 8.07-10.86 (5.77-6.75)		DESIGNED BY: URS	OLD ARCATA RDAD	SHEET
IF NOT TWO CENTIMETERS ON THIS SHEET, ADJUST SCALES ACCORDINGLY	PROJECT NO.: NSTPL-5904(033)	EA NO.: 01-279634L		DRAWN BY: JAB	CONSTRUCTION SITE BMPs DEPLOYMENT PLANS (D-PLANS)	OF 80
	CONTRACT NO.: 980700	FPNO.: 01-2001R		REVIEWED BY: RMB		
	DRAWING FILE NAME: L:\PROJECTS\980700\DWG\Cdwr-BMP2.DWG			APPROVED BY: CJW		
	PLOT DATE: 1/17/2008					



CONSTRUCTION SITE BMPs

SCALE 1:2000

LEGEND

ESA	ENVIRONMENTAL SENSITIVE AREA
FR	FIBER ROLE
	SILT FENCE
	SEDIMENT TRAP
CWD	CLEAR WATER DIVERSION
CWM	CONCRETE WASTE MANAGEMENT
	STABILIZED CONSTRUCTION ENTRANCE/EXIT

SS-6: THIS NUMBER IS ONLY A WILD GUESS. THE ACTUAL AREA WOULD BE CALC'D FROM THE SLOPE AREA OF ALL CUT AND FILL SLOPES...

SS-9: WE ALWAYS SEEM TO NEED STRAW BALES FOR SOMETHING...

END PROJECT
STA "OAR" 10+930
KP 10.86 (PM 6.75)

CONSTRUCTION SITE BMPs

LOCATION	TEMPORARY SOIL STABILIZATION	UNIT	QUANTITY
5+940 – 10+940 R/L	SS-2 TEMPORARY ESA FENCING	M	500m
5+940 – 10+940 R/L	SS-6 TEMPORARY EROSION CONTROL (STRAW MULCH)	Ha	2Ha
	TEMPORARY SEDIMENT CONTROL		
5+940 – 10+940 R/L	SC-1 TEMPORARY SILT FENCE	M	4500m
5+940 – 10+940 R/L	SC-3 SEDIMENT TRAP	EA	3
5+940 – 10+940 R/L	SC-4 TEMPORARY CHECK DAM (11 @ 5m EACH)	LM	55
5+940 – 10+940 R/L	SC-5 TEMPORARY FIBER ROLL	M	790m
5+940 – 10+940 R/L	SC-7 STREET SWEEPING & VACUUMING	LS	1
5+940 – 10+940 R/L	SC-9 TEMPORARY STRAW BALE BARRIER	EA	30
ALL DI'S SEE SHEET 1-3	SC-10 TEMPORARY DRAINAGE INLET PROTECTION	EA	22
	TEMPORARY NON-STORM WATER MANAGEMENT		
5+940 – 10+940 R/L	NS-3 PAVING & GRINDING OPERATION	LS	1
7+640, 8+320, 10+710	NS-4 TEMPORARY STREAM CROSSING	EA	3
7+640, 8+320, 10+710	NS-5 CLEAR WATER DIVERSION	EA	3
5+940 – 10+940 R/L	NS-9 VEHICLE & EQUIPMENT FUELING	LS	1
	TEMPORARY TRACKING CONTROL		
7+020, 81+00, & 10+580	TC-1 TEMPORARY CONSTRUCTION ENTRANCE	EA	3
	TEMPORARY WASTE MANAGEMENT & MATERIALS HANDLING		
	WM-3 STOCKPILE MANAGEMENT	LS	1
	WM-7 CONTAMINATED SOIL MANAGEMENT (IF NECESSARY)	LS	1
7+960 L & A1+120 R	WM-8 TEMPORARY CONCRETE WASHOUT	EA	5

THESE CONSTRUCTION SITE BMP LAYOUTS PLANS, ALSO REFERRED TO AS DEPLOYMENT PLANS (D-PLANS), ARE NOT INTENDED TO BE A PART OF THE CONSTRUCTION PLANS PACKAGE. A COPY WILL BE PROVIDED TO THE RESIDENT ENGINEER WHO WILL AT RE'S DISCRETION BE MADE AVAILABLE TO THE CONTRACTOR.

Mitigation and Minimization Measures

	Measure/Condition Type	Relevant? (Y/N)	Monitoring Required?	Notes
	General Measures			
1	Work period June 30-October 15	Y	N	Best Management Practices
2	In-channel work period; June 30-October 15	Y	N	Requires Extension from CDFG for work past 10/15
3	Proper equipment use near wetted areas	Y	N	Best Management Practices
4	Erosion control plan	Y	Y	Includes SWPPP and BMPs; monitoring during construction period
5	Proper spoils removal	Y	N	Spoils will be taken to upland location/County landfill
6	Wetland mitigation compensation 1:1	Y	N	Includes on-site and off-site mitigation (Fay Slough Mitigation Bank)
7	Conduct bird survey prior to construction for tree removal	Y	N	Conduct survey in spring/summer prior to construction activities
8	Conduct frog & turtle survies prior to construction activities near Cochran Creek & Ryan Slough	Y	N	Species include northern red-legged and foothill yellow-legged frogs and northwestern pond turtle; unnamed tributary to Fay Slough (Cochran Creek) only since Ryan Slough work has been removed
9	Save rootwads of redwood trees >36-inches DBH	Y	N	Attempts to save lower 25-feet of bole & rootwad for stream use
	Fish Measures			
1	Work period to avoid spawning cylces	Y	N	Work period is already June 30 - October 15th
2	No heavy equipment operation within wetted channels	Y	N	A portion of Cochran Creek is scheduled to be widened and relocated
3	Staging and refueling not to occur near stream channels	Y	N	Minimum of 150 feet from active channels
4	Silt fencing installation within channels	Y	N	Upstream and downstream of culvert replacement activities
5	Erosion and sediment control measures to be monitored	Y	Y	Especially after 0.5-inch or greater rainfall event; part of SWPPP
6	Erosion and sediment control measures to be maintained	Y	Y	Part of SWPPP
7	Discharge from dewatering operations to conform to water quality limits	Y	N	As set by water quality certification
8	Soil exposure will be minimized	Y	N	Best Management Practices
9	Removal of erosion and sediment control measures	Y	N	Upon completion of new paved shoulders
10	Preparation of a Water Management Plan	Y	N	Includes guidelines for water diversion and fish removal
11	Removal of the minimum amount of vegetation necessary	Y	N	Best Management Practices
	Project-Specific Measures			
1	Avoid depressions or holes during creek and ditch work	Y	N	Best Management Practices
2	Replace drainage ditches that may provide fish habitat one year prior to road widening	N	N	Not feasible and no longer obtainable; not sure which ditches provide fish habitat
3	A fish biologist authorized by NMFS to be present at culvert replacements	Y	N	Best Management Practices
4	Pile-driving activities at Ryan Slough	N	N	No longer part of the project
5	Protect diversion outfall areas	Y	N	Best Management Practices

NMFS' Resonable & Prudent Measures and Associated Terms & Conditions for work that could potentially impact listed fish species

Work related to stream crossings at Cochran Creek (tributary to Fay Slough) and unnamed tributary to Rocky Gulch

Resonable and Prudent Measures & Associated T&Cs		Relevant? (Y/N)	Monitoring Required?	Notes
1 *Proper implementation of construction practices*				
T&C				
A	Provide workers wil copies of mitigation measures & T&Cs	Y	N	Best Management Practices
B	Avoid or minimize impact to critical habitat	Y	N	Best Management Practices
C	Provide NMFS with monthly compliance documentation	Y	N	Monthly report deals with R&P#1 and associated T&Cs
2 *Proper personnel are used to capture & relocate salmonids*				
T&C				
A	Listed species shall be relocated before deatering	Y	N	Best Management Practices
B	Fish biologist shall coordinate with NMFS on methods & sites	Y	N	
C	Electrofishing must follow NMFS Guidelines	Y	N	NMFS Guidelines
D	Follow outlined steps for fish relocation methodology	Y	N	Steps are outlined in BO
E	Dewatering must be done before construction	Y	N	Best Management Practices
F	Length of dewatered stream shall be minimized	Y	N	Best Management Practices
G	Follow dewatering and pump intake guidelines	Y	N	NMFS Guidelines
H	Construction to be timed during time of low flow	Y	N	Best Management Practices
I	Follow listed criteria for fish capture and relocation	Y	N	Criteria is outlined in BO
3 *Ensure implementation monitoring is conducted by CalTrans and/or the County of Humboldt*				
T&C				
A	Provide NMFS with copies of contractor's daily diaries	Y	N	
4 *Conduct monitoring report documenting compliance of implementation of the terms and conditions*				
T&C				
A	Provide list of dates, contacts and reports submitted	Y	N	To be done one year following start of construction activities
B	Upon request by NMFS, provide copies of contracts, reports, etc	Y	N	
C	Provide any additional information on implementation of T&Cs	Y	N	For information not included in the reports and records required
5 *Provide NMFS information regarding mitigation bank*		Y	N	Includes accounting of all mitigation that was withdrawn
6 *Mitigate in kind for habitat loss at Ryan Slough*		N	N	No longer part of the project

COUNTY OF HUMBOLDT

DEPARTMENT OF PUBLIC WORKS
NATURAL RESOURCES DIVISION

1106 SECOND STREET
EUREKA, CA 95501-0579
707.445.7741 / FAX 445-7409

WATER MANAGEMENT PLAN

Myrtle Avenue / Old Arcata Road Improvements Project
Humboldt County Department of Public Works
(April 7, 2008)

Background

The following water management plan proposes to minimize impacts to waterways and fish habitat as a result of the project. The information contained in the following plan is required by the Coastal Commission in order to determine the project's consistency with Coastal Act Section 30233.

The project has been designed to avoid or minimize impacts to wetlands, waterways, and aquatic species habitat to the maximum extent practicable. Impacts to these sensitive area will be reduced by implementing best management practices (BMPs) as shown in the Construction Site BMPs Deployment Plans (submitted with CDP application) and moreover as listed in the Regulatory Compliance Conditions & Measures (Attachment 1).

Mitigation measures to protect sensitive areas including waterways and fish habitat were proposed by Humboldt County Department of Public Works (DPW) and were contained in the final EIR (submitted to Commission). There were nine *General Measures*, eleven *Fish Measures* and five *Project-Specific Minimization Measures*. A summary table of the list of mitigation and minimization measures as described in the final EIR was provided in application package for the CDP. The National Marine Fisheries Service (NMFS) also identified six reasonable and prudent measures deemed necessary to minimize adverse affects to listed salmonids resulting from the implementation of the proposed project. Terms and conditions for implementing the reasonable and prudent measures were also described within the biological opinion. These measure along with the terms and conditions set by NMFS was also provided in the application package for the CDP.

Attachment 2 contains two figures. Figure 1 shows detail of the temporary erosion control & water management plan for the culvert replacements at Cochran Creek, tributary to Fay Slough (Cox Corner) and tributary to Rocky Gulch. Figure 2 shows the temporary detour of the roadway at these crossings.

Sediment and Erosion Control

There are five stream crossings (intermittent and perennial) throughout the project area. The County has identified these streams and numerous wetland areas adjacent to the project boundary as environmentally sensitive areas. Site-specific BMPs for these areas to prevent the release of sediment or other materials are shown in the Construction Site BMPs Deployment Plans (submitted with CDP application). These plans will be included in the contract documents. In addition, the selected contractor will be required to develop and implement a stormwater pollution prevention plan (SWPPP) for all areas of ground disturbance.

Proposed Streamflow Diversion Plan

Cochran Creek is a perennial stream. It will be necessary to divert stream flow through or around the project area during construction. The diversion will consist of a coffer dam at the upstream end of the project and approximately 150 feet of 18-inch-diameter pipe to convey water to a point below the project area.

First, fish exclusion fencing will be installed above and below each project reach. Fish and other aquatic organisms found in the project area will be relocated above and below the project area by a qualified biologist. A coffer dam consisting of sand bags and filter fabric will be constructed at the upstream end of the project area. Streamflow will be conveyed through a 12-18 inch-diameter pipe, which will be laid on the streambed and/or along the channel embankment. The pipe will be moved around as necessary to accommodate construction activities. At the downstream end, the pipe outlet will be placed on a small temporary splash pad of rock and gravel to minimize the possibility of scour from the daylighting flow. The outlet will be located immediately above the downstream fish exclusion fencing to avoid impacts to fish below the project. The diversion will be removed as soon as work below ordinary high water has been completed.

If it is necessary to pump water from the footing excavations during construction, that water will be discharged onto the vegetated flat lands away from the riparian zone (with owner permission). The discharge will be at a sufficient distance to prevent any sediment from entering the creek.

Streamflow diversion will be limited to the minimum amount of time needed to complete work in the stream channel. The length of the diversion will be the shortest possible while still minimizing effects to water quality and not encroaching on construction activities.

Impacts Analysis

The construction and removal of streamflow diversion structures may have direct or indirect impacts on federally listed fish and habitat. Currently there is no evidence for the presence of listed fish species within both Cochran Creek nor the unnamed tributary to Rocky Gulch. The goal of the two proposed culvert replacements is to allow future passage of fish species. According to the regulatory agencies, it is unlikely that any salmonids will be found within the project area. However, there is always a chance species may be present, and if so, then direct impacts to fish could occur within the work area.

Direct Impacts

Direct impacts to fish include injury or mortality due to crushing, electrocution, harassment, and stranding.

Fish may be injured or killed during the construction and removal of the diversion structures. Due to the timing of the project (late summer during low flows), adult salmonids are unlikely to be found in the project area. As described above, it is possible, but unlikely that juvenile fish may be present. Juvenile fish could be bumped or crushed by footsteps during fish exclusion fence installation. Fish could also be injured or stressed by harassment from both fish fence installation and/or hazing (driving) them out of the project area, which could lead to mortality. Electrofishing to remove fish from inside the project area could result in the death of individuals from electricity or transport to a new location.

Indirect Impacts

Indirect impacts to fish include changes to habitat and water quality that could affect survival and numbers of individuals/populations.

Dewatering of any portion of stream channel could affect habitat. Dewatering may result in loss of aquatic biota that fish feed on or aquatic vegetation that fish hide in. In addition, lack of water could affect riparian vegetation on stream banks, resulting in drought stress, and leaf drop or death. This could lead to loss of shade and reduction in leaf litter contribution to the stream, from the time the diversion is removed and flow restored until new riparian vegetation growth occurs/re-establishes.

Diverting streamflow during project construction could affect water quality. Placement of the fish exclusion fencing, construction of the diversion structures, and removal of the components could expose and stir up fine sediment on the streambed, resulting in a temporary increase in turbidity.

Minimization Measures and Monitoring

To minimize potential impacts to fish and other aquatic species that may be present in Cochran Creek and the unnamed tributary to Rocky Gulch, minimization and mitigation measures will be taken in the installation and removal of diversions, and fish relocation activities associated with the project. The measures listed below are required by DFG and NMFS and will be utilized for the project.

- DFG will be notified 5 days before the diversion is installed. DFG personnel will supervise implementation of the diversion plan and oversee safe removal and relocation of salmonids.
- Any equipment work within the stream channel will be performed in isolation from the flowing stream. Flow will be diverted with the use of coffer dams constructed of river gravel or sand bags.
- Prior to the start of construction activities (including diversion installation), fish exclusion fencing will be placed above and below the project reach.
- Any equipment entering the active stream installing a coffer dam will be preceded by an

individual on foot to displace wildlife and prevent them from being crushed.

- The suction end of the intake pipe will be fitted with fish screens. Turbid water pumped from the dewatered work site will be disposed of in an upland location.
- Measures will be taken to minimize harm and mortality to listed salmonids resulting from fish relocation and dewatering activities.
  a) Relocation and dewatering from June 15-October 30
  b) Minimize the amount of wetted stream channel that is dewatered to the fullest extent possible
  c) Electrofishing will be performed by a qualified biologist according to *Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act* (NMFS 2000).
- Sediment-laden water created by construction activity will be filtered before it re-enters the stream. Silt fences or other detention methods will be installed to reduce the amount of sediment re-entering the stream.
- If the mitigation measures cannot be implemented or actions cannot be modified to prevent or avoid impacts, activities will be discontinued.

References

California Department of Fish & Game, April 2003. California Salmonid Stream Habitat Restoration Manual, Part IX – Fish Passage Evaluation at Stream Crossings.

Jones & Stokes, June 30, 2001. Natural Environment Study Report, Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project.

Jones & Stokes, October 2001. Final Environmental Impact Report, Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project.

NOAA-National Marine Fisheries Service, September, 2001. Guidelines for Salmonid Passage at Stream Crossings.

NOAA-National Marine Fisheries Service, June, 2000. Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act.

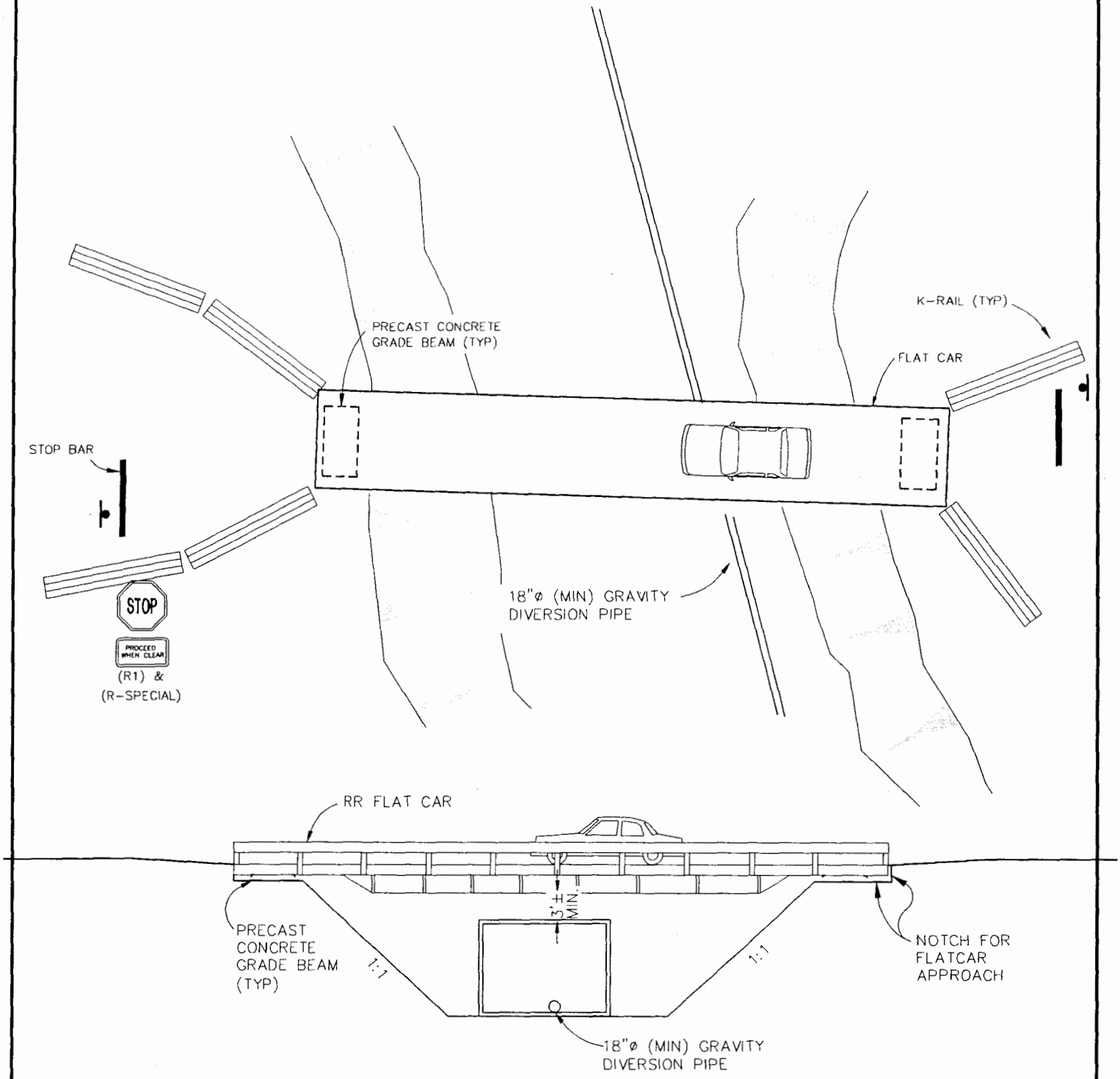
NOAA-National Marine Fisheries Service, February 28, 2003. Biological opinion for the Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project.

United States Fish & Wildlife Service, March 13, 2003. Biological opinion for the Old Arcata Road/Myrtle Avenue Widening and Rehabilitation Project, Humboldt County, California.

Attachment 1
Regulatory Compliance Conditions and Measures

Regulatory Compliance Conditions & Measures			
	Condition/Measure Type	**Compliance Method & Responsibilities**	
	General Measures	***Contractor***	***County***
1	Work period June 15-October 15 for work activities involving areas of surface water (culverts, streams, etc).	Contractor shall schedule work activities accordingly.	Oversight; Possible work period extension to October 31 if necessary; requires CDFG approval.
2	All equipment access shall minimize crossing wetted areas. Equipment used in and around areas of surface water shall be in good working order and shall be free of dripping or leaking engine fluids. All vehicle maintenance, staging, and materials storage shall occur outside all areas containing surface waters.	Contractor shall adhere to measure.	Oversight.
3	An erosion control plan shall be prepared for the project and shall include the following provisions (3a-3g):	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3a	Discharge from dewatering operations and runoff from disturbed areas shall conform to water quality conditions required by the waste discharge permit issued by RWQCB.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3b	Material stockpiles shall be located in non-traffic areas only. Side slopes shall not be steeper than 2:1. All stockpile areas shall be surrounded by a filter fabric fence and interceptor dike.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3c	Erosion control will be applied throughout construction of the project. The SWPPP will detail the application, type, and exposure of unprotected soils.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3d	Soil exposure shall be minimized through the use of temporary BMPs, ground cover, and stabilization measures. Exposed dust-producing surfaces shall be wetted daily if necessary. Paved streets shall be swept daily following construction activities.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3e	Removal of all temporary erosion and sediment control measures shall be done after the working area is stabilized or as directed by the engineer.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3f	An appropriate seed mix of native species shall be planted on disturbed areas upon completion of construction.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3g	Sandbagged silt fences shall be installed in all named and unnamed waterways in which construction work occurs, both upstream and downstream of the construction site. Any accumulated sediment shall be removed and taken to an approved upland disposal site.	Contractor shall adhere to all provisions set forth within the erosion control plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
4	Any surplus concrete rubble, asphalt, or other rubble from construction will be taken to an approved upland disposal site.	Contraetor is responsible for removal and disposal of surplus materials.	Oversight.
5	Impacts to wetland areas require mitigation compensation 1:1 (either on-site or off-site)	N/A	County is responsible to adhere to mitigation set forth by regulatory agencies
6	Conduct bird survey prior to construction for tree removal	N/A	County is responsible for retaining a specialist prior to construction activities.
7	Conduct frog & turtle surveys prior to construction activities near Cochran Creek, Cox Corner, and unnamed tributary to Rocky Gulch	N/A	County is responsible for retaining a specialist prior to construction activities.
8	For all redwoods more than 36 inches dbh to be removed, attempts will be made to save lower 25 feet of bole and rootwad for future use in stream restoration.	N/A	County to explore opportunities and talk to landowners
	Water Crossings & Fish Measures	***Contractor***	***County***
1	No heavy equipment operation within wetted channels	Contractor shall adhere to measure.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
2	Staging and refueling not to occur within 150 feet from active stream channels	Contractor shall adhere to measure.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
3	Erosion and sediment control measures will be checked within 24-hours of each 0.5-inch or greater rainfall event.	Contractor shall adhere to measure.	Oversight.
4	Preparation of a Water Management Plan that includes the following provisions (4a-4d):	Contractor shall adhere to all provisions set forth within the Water Management Plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
4a	All stream flow shall be diverted around work areas. Stream diversion must be accomplished by DFG, Corps, RWQCB, and NMFS approved methods.	Contractor shall adhere to all provisions set forth within the Water Management Plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
4b	All diversion outfall areas shall be protected by securing the pipe outlets, sand bagging, and providing energy dissipation to the satisfaction of the field engineer.	Contractor shall adhere to all provisions set forth within the Water Management Plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
4c	All bypass work shall require approval by the field engineer prior to removal of the existing culverts.	Contractor shall adhere to all provisions set forth within the Water Management Plan and regulatory permits.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
4d	Prior to installing the diversion flow pipe, sandbagging, and other activity at the fish replacement culverts (Cochran Creek, Cox Corner, and unnamed tributary to Rocky Gulch), a fisheries biologist, authorized by NMFS shall check for the occurrence of listed species in the stream before dewatering occurs. Removal of fish from any project area, if necessary, will be accomplished by the authorized fish biologist.	Contractor shall adhere to all provisions set forth within the Water Management Plan and regulatory permits. Contraetor shall not initiate work in these areas until the fish biologist has been scheduled and performed required work.	Oversight & Compliance; The County will provide the authorized fisheries biologist for required activities.
5	Only the minimum amount of vegetation necessary to construct the project will be removed.	Contractor shall adhere to measure.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.
6	Any depressions or holes resulting from relocation of drainage ditches or replacement of culverts will be filled with gravel and the bed graded to slope downstream.	Contractor shall adhere to measure.	Oversight & Compliance; The County is the signatory applicant on the regulatory permits and therefore is responsible that compliance is met.

Attachment 2
Figure 1 – Temporary Erosion Control & Water Management Plan
Figure 2 – Temporary Detour Roadway for Culvert Replacements



ELEVATION

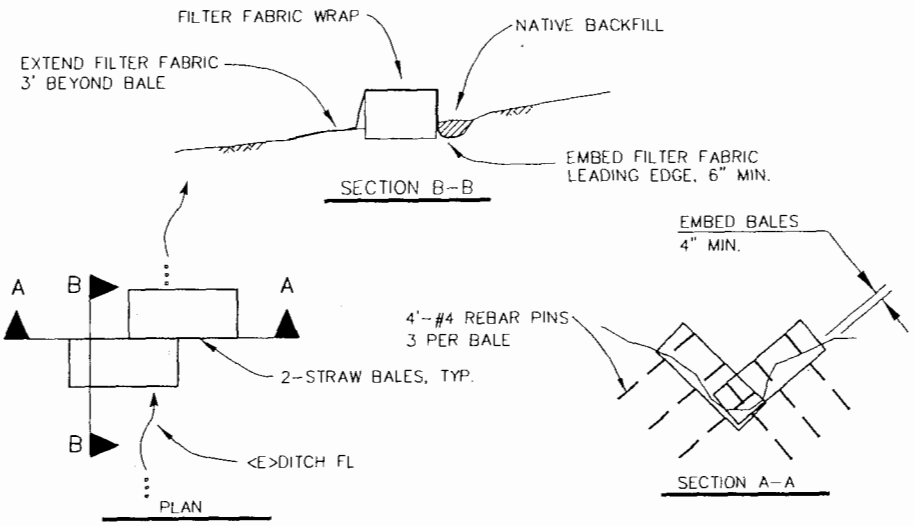
SCALE 1"=10'

TEMPORARY DETOUR ROADWAY
Culvert Replacements on Old Arcata Road

COCHRAN CREEK, TRIBUTARY TO ROCKY GULCH
and TRIBUTARY TO FAY SLOUGH

8 of 9

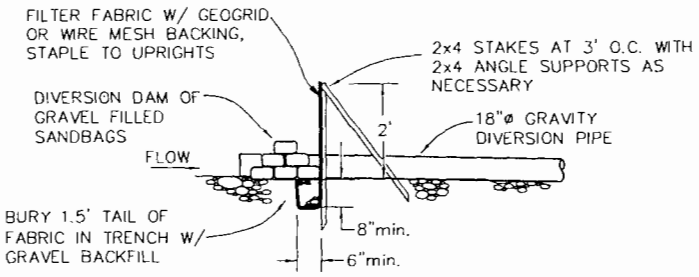
FIGURE 2



SILT DAM DETAIL

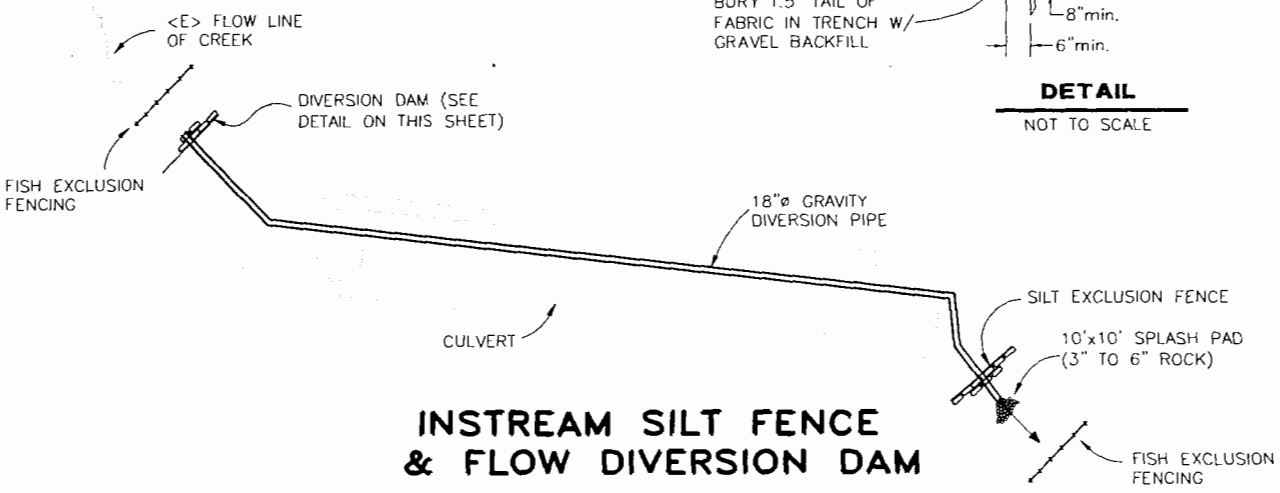
NOT TO SCALE

DRAINAGE DITCH CHECK DAM



DETAIL

NOT TO SCALE



INSTREAM SILT FENCE & FLOW DIVERSION DAM

TEMPORARY EROSION CONTROL & WATER MANAGEMENT PLAN

CULVERT REPLACEMENTS AT
COCHRAN CREEK, TRIBUTARY TO ROCKY GULCH
and TRIBUTARY TO FAY SLOUGH
Old Arcata Road (3K300), Humboldt County

999

FIGURE 1

COUNTY OF HUMBOLDT

DEPARTMENT OF PUBLIC WORKS
NATURAL RESOURCES DIVISION

1106 SECOND STREET
EUREKA, CA 95501-0579
707.445.7741 / FAX 445-7409

REVEGETATION PLAN

Myrtle Avenue / Old Arcata Road Improvements Project
Humboldt County Department of Public Works
(April 14, 2008)

Background

The following revegetation plan proposes to minimize impacts to disturbed areas as a result of the project. The plan will accommodate the need for immediate erosion control, re-establish riparian areas and provide shade, and incorporate native plant species into some areas currently overwhelmed with non-native plant species. The information contained in the following plan is required by the Coastal Commission as part of the Coastal Development Permit for the overall project (No. 1-86-200-A4).

The project has been designed to avoid or minimize impacts to wetlands, waterways, and aquatic species habitat to the maximum extent practicable. Impacts to these sensitive area will be reduced by implementing best management practices (BMPs) as shown in the Construction Site BMPs Deployment Plans and as listed in the Regulatory Compliance Conditions & Measures (both submitted with CDP application).

Proposed Areas for Riparian Revegetation

The proposed project will result in numerous trees and vegetation to be trimmed, removed, and/or impacted. The County has identified three areas that contain a re-vegetation strategy to mitigate for impacts caused by road and channel realignment and culvert replacement. Description of existing vegetation along the areas that will be impacted is based on site visits and the wetland delineation that was conducted in 2001 by Jones & Stokes for the EIR.

1. Culvert Replacement – Cochran Creek (Figure 1)
    - A plan has been developed to restore the riparian area near Cochran Creek once the new culvert and channel has been completed (Station 7+645). The project area that includes Cochran Creek consists of a highly disturbed roadside channel that lacks any substantial riparian plants or trees. Currently the area is dominated by Himalayan blackberry and perennial grasses such as sweet vernal grass, Pacific reed-grass, and bentgrass.

2. Culvert Replacement – Tributary to Fay Slough (Figure 2)
    - A plan has been developed to restore the areas near the inlet and outlet of the new culvert proposed at the tributary to Fay Slough (Station 8+325). The plan will also restore the newly formed ditch that is constructed above the inlet of the culvert. The oversized ditch will vary from five to eight feet in width and run approximately 350 feet. Currently the area is dominated by Coastal Scrub and Freshwater Marsh habitat. Dominant plant species in the marsh community include cattail, bulrush, lady fern, and Himalayan blackberry. The marsh area at this location (Cox Corner) also supports a dense willow scrub near the roadside.

3. Culvert Replacement – Tributary to Rocky Gulch (Figure 3)
    - A plan has been developed to restore the areas near the inlet and outlet of the new culvert proposed at the tributary to Rocky Gulch (Station 10+713). Currently the area is dominated by Himalayan blackberry, perennial grasses, and dense willow scrub.

The County has not developed a plan to replant the low-quality roadside ditches that will be created when existing ditches are filled. The new ditches will be seeded with a native grass mix and mulched for erosion and sediment control as described in the project description and BMPs. Section 10-1.22 of the contract special provisions (attached) states how erosion control measures will be conducted to all disturbed areas. The newly created ditches will be able to re-vegetate naturally over a relatively short period of time

Revegetation Activities

Revegetation activities will consist of two components: immediate seeding and mulching for erosion control, and planting of containerized stock for landscaping and establishment of riparian corridor. Location of planting near culvert installations will be conducted to provide the most shade obtainable.

Erosion Control Planting

Immediately after construction is complete, all disturbed ground will be seeded with a mix of fast growing native grasses as described in Section 10-1.22 of the contract special provisions. These include Blando Brome, Alta Fescue, and Narrow leaf Birdsfoot Trefoil. Application of the hydro-seeded erosion control materials will consist of a mixture of fiber, seed, commercial fertilizer and water. Once the hydro-seed has been placed, the areas will be mulched with 2-4 inches of weed-free straw.

Riparian Planting

The planting plan proposes a variety of native herbaceous plants, shrubs, and trees, which will be acquired locally if possible. Please refer to attached figures for specifics on types of plants to be planted at each site location. Planting of containerized stock will be done after December 1, most likely in mid-January. Replantings may be done after April 1 if irrigation facilities are available. Proposed species include:

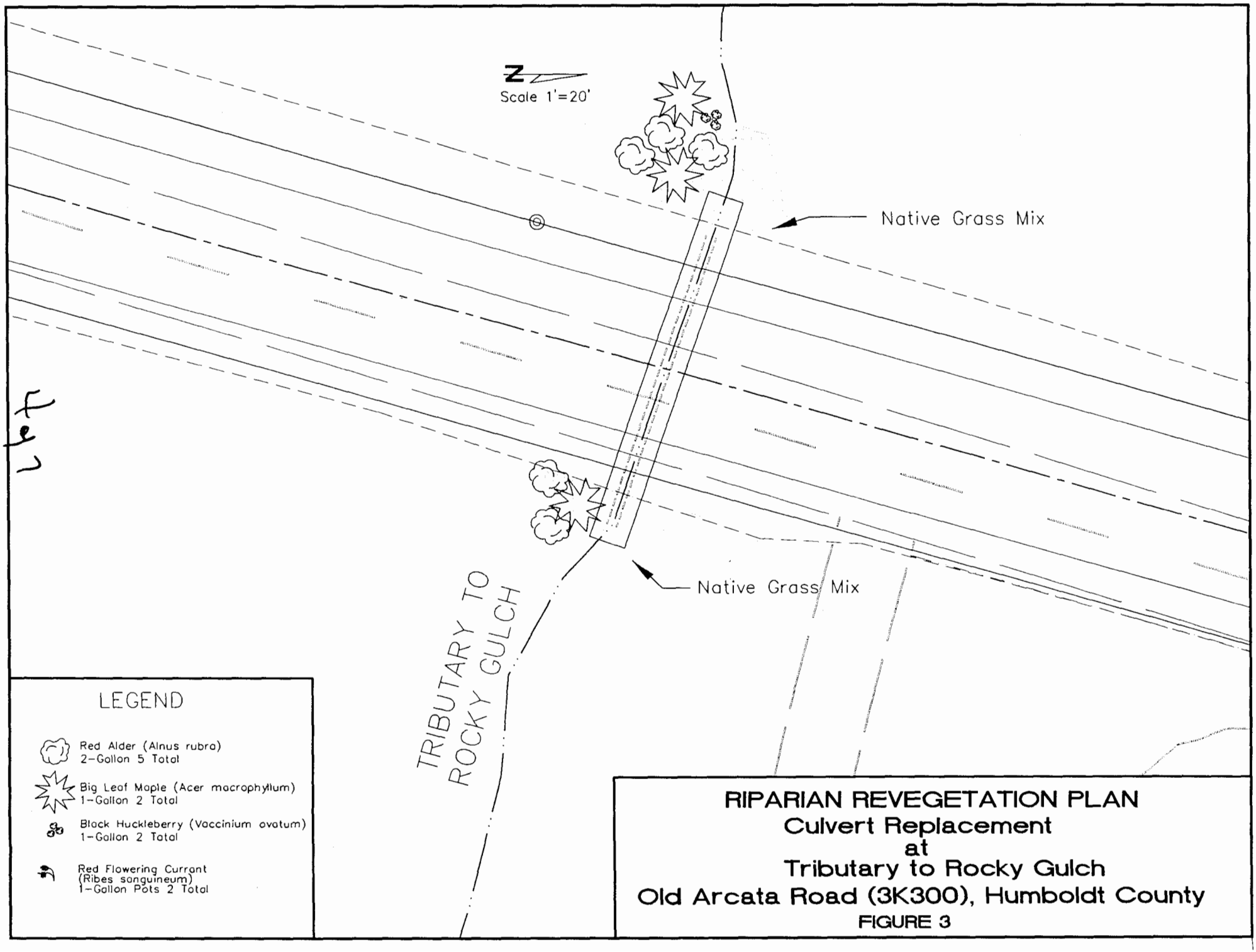
- *Alnus rubra* (red alder)
- *Acer macrophyllum* (big-leafed maple)
- *Vaccinium ovatum* (black huckleberry)
- *Carex obnupta* (slough sedge)
- *Scirpus validus* (softstem bulrush)
- *Scirpus Californicus* (California tule)
- *Ribes sanguineum* (red flowering currant)
- *Lonicera involucrate* (twinberry)

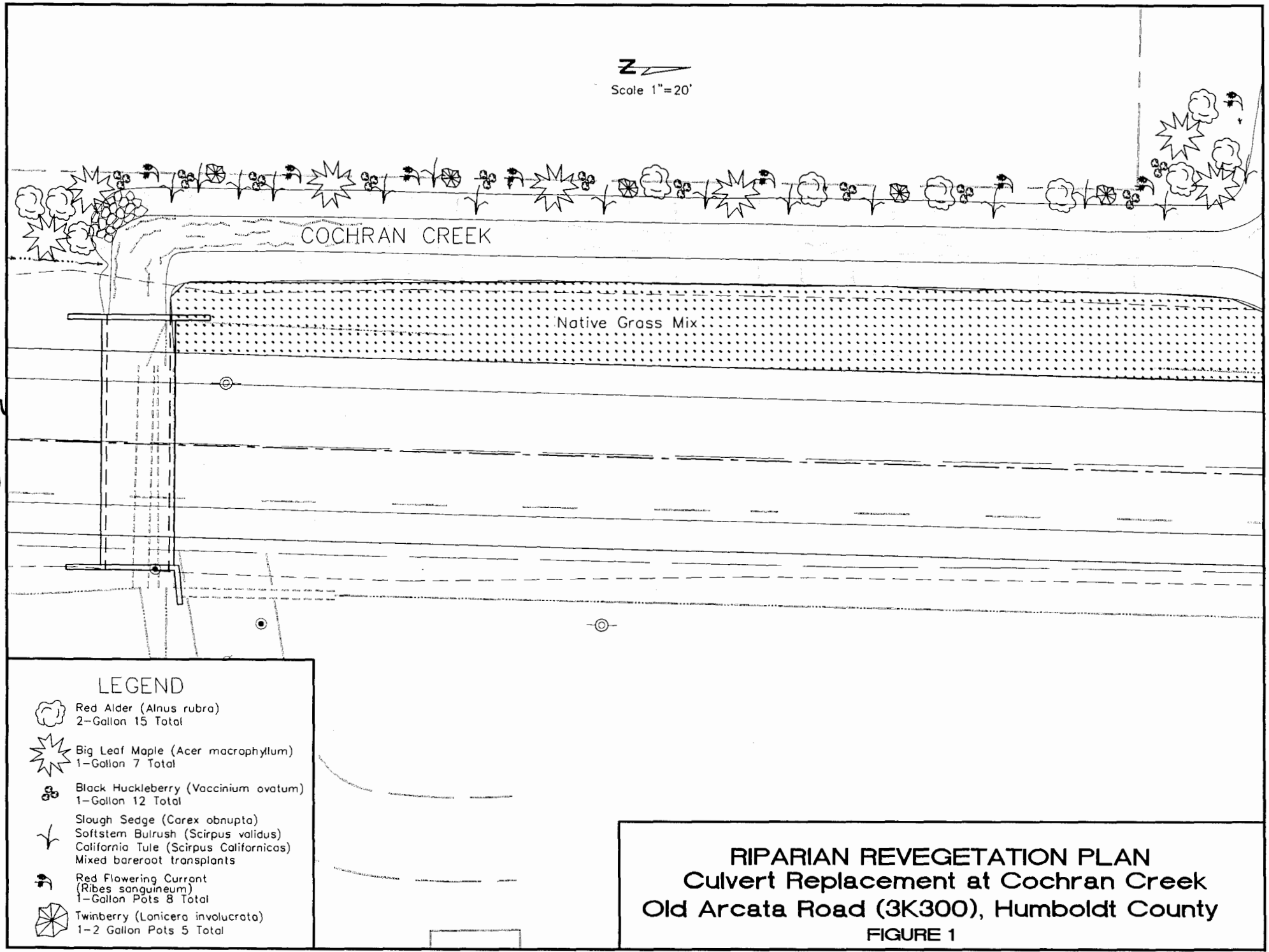
Post-Planting Maintenance and Monitoring

Establishment of erosion control vegetation at 80% ground cover is anticipated during the first winter. Periodic observations of the seeded/mulched areas will be made at least monthly during the winter months. Areas not achieving 80% coverage will be reseeded and re-mulched. No activities are proposed to maintain the native grass species at the planted ratios, as the purpose of the seeding is erosion control, and little is known about what grass species are in the soil seed bank and in the surrounding area.

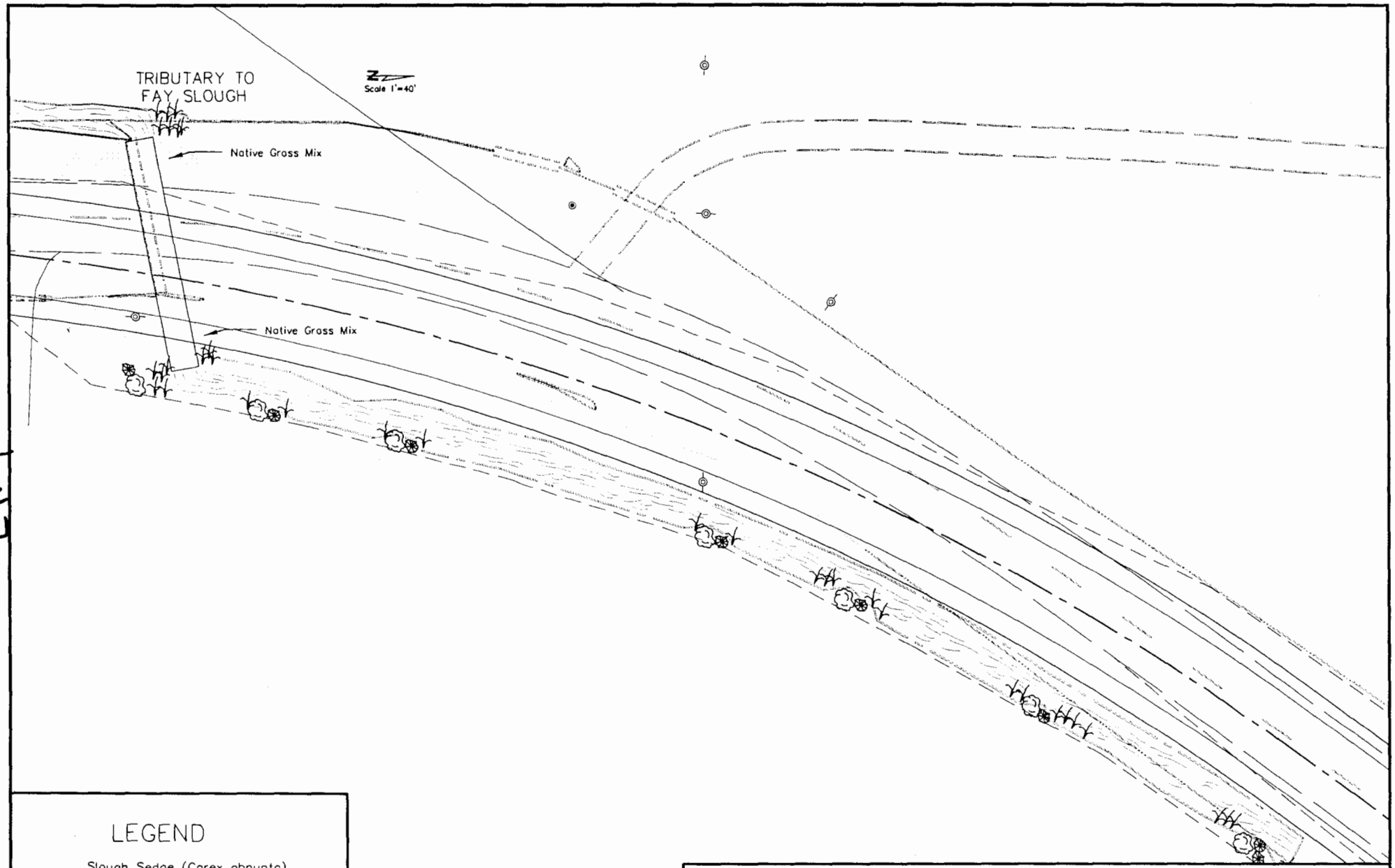
Container plantings will be monitored bimonthly during the first winter, annually thereafter. Survival goal for containerized stock is 80%. Plant failures will be replaced in kind the first time. If a subsequent planting fails to survive, the species used will be re-addressed and another species more likely to survive in that location may be substituted.

Vegetation monitoring and maintenance will continue for 3 years after the construction is complete.


N
Scale 1"=20'
Native Grass Mix
Native Grass Mix
TRIBUTARY TO ROCKY GULCH
LEGEND
Red Alder (Alnus rubra)
2-Gallon 5 Total
Big Leaf Maple (Acer macrophyllum)
1-Gallon 2 Total
Black Huckleberry (Vaccinium ovatum)
1-Gallon 2 Total
Red Flowering Currant
(Ribes sanguineum)
1-Gallon Pots 2 Total
RIPARIAN REVEGETATION PLAN
Culvert Replacement
at
Tributary to Rocky Gulch
Old Arcata Road (3K300), Humboldt County
FIGURE 3



RIPARIAN REVEGETATION PLAN
Culvert Replacement at Cochran Creek
Old Arcata Road (3K300), Humboldt County
FIGURE 1



LEGEND

Slough Sedge (Carex obnupta)
Softstem Bulrush (Scirpus validus)
California Tule (Scirpus Californicas)
Mixed bareroot transplants

Red Alder (Alnus rubra)
2-Gallon 15 Total

Twinberry (Lonicera involucrata)
1-2 Gallon Pots 5 Total

RIPARIAN REVEGETATION PLAN
Culvert Replacement
at
Tributary to Fay Slough
Old Arcata Road (3K300), Humboldt County

FIGURE 2

measured and paid for will be determined in the same manner as provided for roadway excavation and shall be the computed volume based upon the pre-project measured ground surface and the project grading plane. No adjustment in quantity will be made due to subsidence, consolidation, or compaction of natural ground.

Structure excavation and backfill will not be measured and paid for on storm drain, minor structures and culvert pipe, however these items will be measured and paid for on pre-cast or cast-in-place concrete box culverts.

10-1.22 EROSION CONTROL

Erosion control (Type D) shall conform to the provisions in Section 20-3, "Erosion Control," of the Standard Specifications and these special provisions.

Erosion control work shall consist of applying hydro-seeded erosion control materials, consisting of a mixture of fiber, seed, commercial fertilizer and water. The mixture shall be applied to embankment and excavation slopes and other graded or disturbed areas of the project including any borrow or disposal sites as determined by the Engineer.

Seed shall consist of the following:

Botanical Name (Common Name)	Percentage Purity (minimum)	Percentage Germination (minimum)	Kg. Per Hectare	(Lbs. Per Acre)
Bromis Mollis 'Blando' (Blando Brome)	95	95	50	(45)
Festuca Arundinacea (Alta Fescue)	98	85	28	(25)
Lotus Corniculatus Tenuifolius (Narrow leaf Birdsfoot Trefoil)	98	80	17	(15)

Seed shall be mixed on the project site in the presence of the Engineer.

The Erosion Control (Type D) materials shall be mixed and applied in the following proportions:

Material	Kg. Per Hectare (Slope Measurement)	(Lbs. per Acre) (Slope Measurement)
Fiber	1680	(1,500)
Seed	95	(85)
Commercial Fertilizer	336	(300)

The mixture shall be applied within 60 minutes after the seed has been added to the mixture. An alternate seed mixture approved by the Engineer shall be substituted for the mixture specified herein for slopes adjoining landscaped or lawn areas.

Type "D" Erosion Control will be measured and paid for by the hectare based upon the horizontal measurement of the slope and other project areas to be seeded. Such payment shall include full

COUNTY OF HUMBOLDT

DEPARTMENT OF PUBLIC WORKS
NATURAL RESOURCES DIVISION

1106 SECOND STREET
EUREKA, CA 95501-0579
707.445.7741 / FAX 445-7409

DEBRIS DISPOSAL PLAN

Myrtle Avenue / Old Arcata Road Improvements Project
Humboldt County Department of Public Works
(April 10, 2008)

Introduction

During review of Coastal Development Permit Amendment Application No. 1-86-200-A4, the Coastal Commission required submittal of a Debris Disposal Plan for the Myrtle Avenue / Old Arcata Road Improvements Project. The Debris Disposal Plan contains information regarding how debris generated by the project will be removed from the site. Temporary staging and stockpiling of debris material within County Right-of-Way, along with potential sites located on private property is shown on the attached site map (Attachment 1). Staging and stockpile sites located on private property is ultimately up to the agreement between the contractor and the private property owner. The County has listed potential locations for these sites on the attached site map.

Section 10 of the contract special provisions (Attachment 2) states that the surplus excavated material shall become the property of the contractor and shall be disposed of outside the highway right-of-way in accordance with the provisions in section 7-1.13 of the Caltrans standard specifications (Attachment 3). The construction contracts will specify disposal requirements, including disposing debris outside of environmentally sensitive areas, streams, and wetlands. Also, the contractor will dispose of excess materials at an approved RWQCB site.

Summary of the Project

The proposed project consists of shoulder widening, road realignment, a re-designed intersection, culvert enhancement, and drainage improvements along an approximately three-mile stretch of road that includes portions of Myrtle Avenue and Old Arcata Road in Humboldt County, California.

The existing road within the work area has 10- to 12-feet-wide travel lanes with minimal (0- to 2-feet-wide) paved shoulders. This configuration provides insufficient space for motorists to adjust to emergency situations and for bicyclists and pedestrians to travel adjacent to the vehicle travel lanes. Several vertical curves do not have the required stopping sight distances, and two horizontal curves do not meet minimum radii standards. The project will improve safety for

pedestrians, bicyclists, and motorists by widening the transportation corridor and upgrading the roadway geometry to current standards.

Debris Generated by Project

Calculated amounts of debris and materials that will be generated by the project are listed in the "Summary of Quantities" (Sheet 3 of 80) of the final project plans (submitted to Commission on March 11, 2008 as part of permit amendment application).

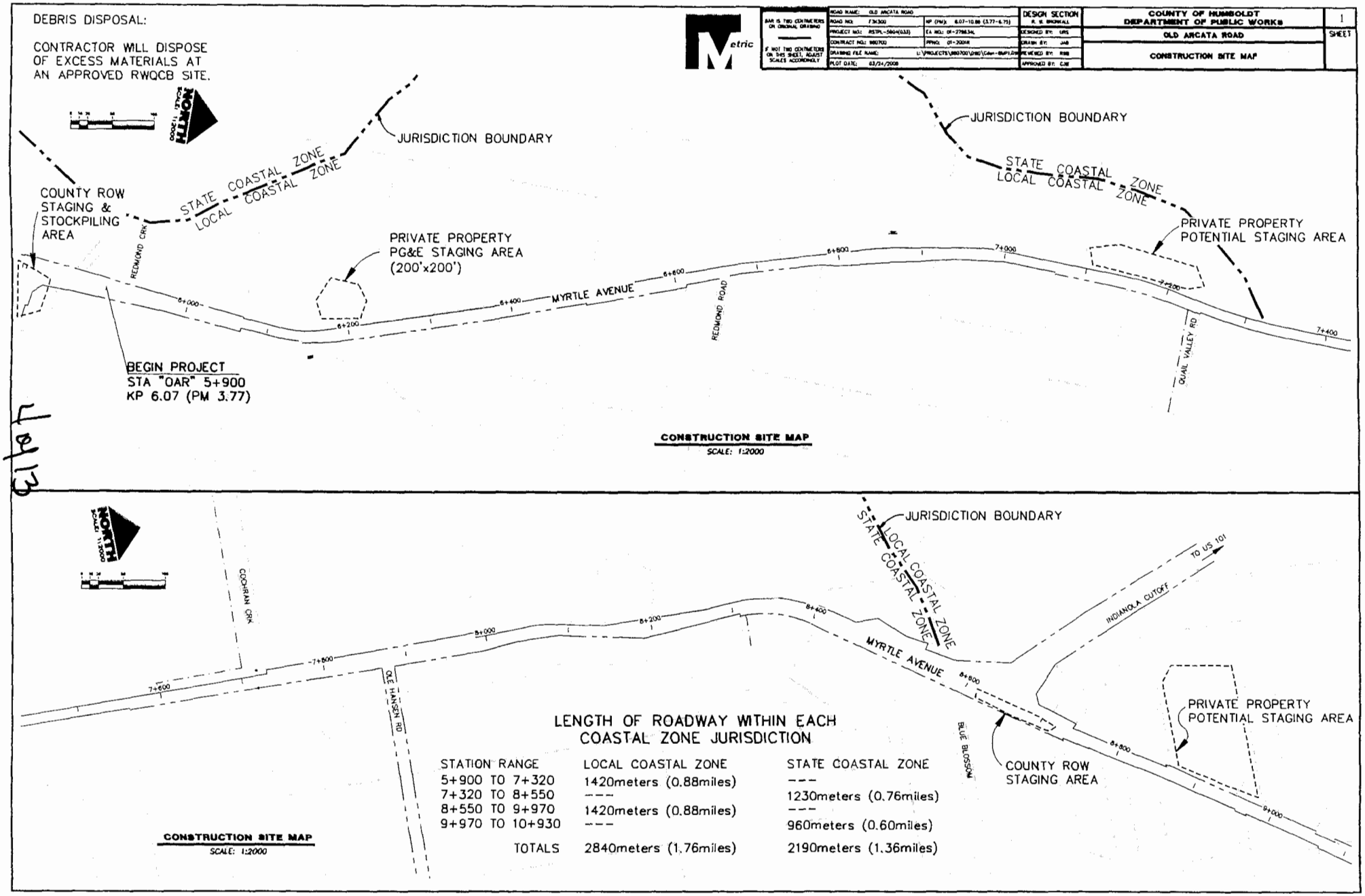
Removal/Disposal of Debris

Debris disposal will be the responsibility of the construction contractor. The construction contract specifies disposal requirements, including disposing debris outside of environmentally sensitive areas, streams, and wetlands. The old culvert pipes will be hauled off site via trucks and either stockpiled for reuse, concrete recycling, or permanently disposed of at an approved facility.

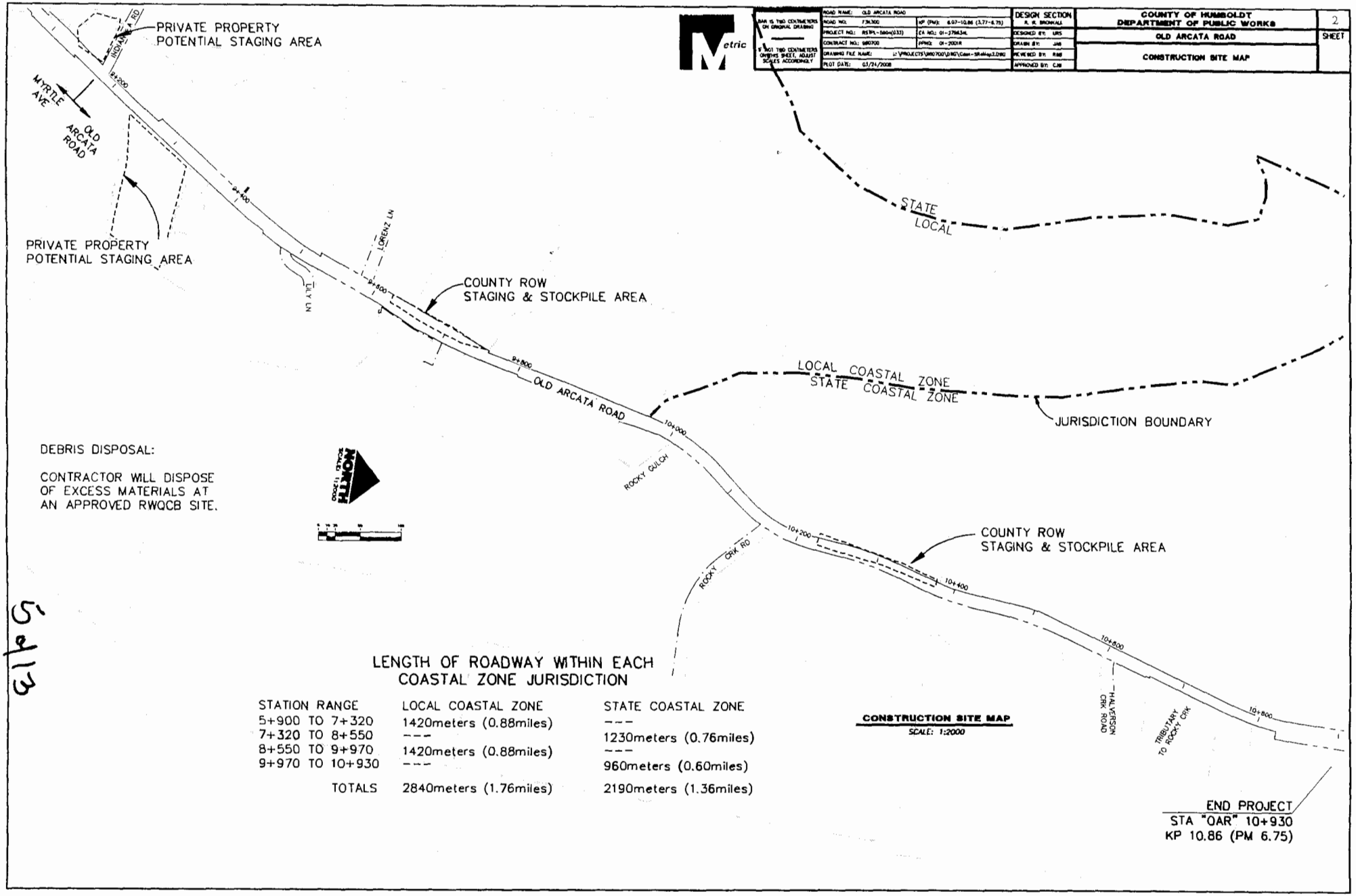
As with the old culvert pipe, fill disposal will be the responsibility of the construction contractor. Disposal requirements are included in the contract and are described in section 7-1.13 of the Caltrans standard specifications (Attachment 3). For culvert replacements at stream crossings, excess materials excavated that is too wet to haul will be stockpiled at an upland location adjacent to the project site to dewater. Stockpiles will be isolated from the project area and no fine sediment will be allowed to enter the site. Embankment fill, stream channel sediment dry enough to haul, along with dewatered sediment will be trucked off-site to an approved upland stockpile or disposal facility as determined by the contractor and approved by Public Works. Approved disposal sites will not be known until the contract has been awarded.

Attachment 1
Site Map – Temporary & Potential Staging Areas & Coastal Zone Jurisdiction Boundaries

Site Map – Myrtle Avenue / Old Arcata Road Improvements Project
Temporary & Potential Staging Areas And Coastal Zone Jurisdiction Boundaries



Site Map – Myrtle Avenue / Old Arcata Road Improvements Project
Temporary & Potential Staging Areas And Coastal Zone Jurisdiction Boundaries



DEBRIS DISPOSAL:

CONTRACTOR WILL DISPOSE OF EXCESS MATERIALS AT AN APPROVED RWQCB SITE.

CONSTRUCTION SITE MAP
SCALE: 1:2000

LENGTH OF ROADWAY WITHIN EACH COASTAL ZONE JURISDICTION

STATION RANGE	LOCAL COASTAL ZONE	STATE COASTAL ZONE
5+900 TO 7+320	1420meters (0.88miles)	---
7+320 TO 8+550	---	1230meters (0.76miles)
8+550 TO 9+970	1420meters (0.88miles)	---
9+970 TO 10+930	---	960meters (0.60miles)
TOTALS	2840meters (1.76miles)	2190meters (1.36miles)

5 of 13

Attachment 2
Selection of Section 10 of the Contract Special Provisions

6913

The contract price paid per square meter for cold plane asphalt concrete pavement shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in cold planing asphalt concrete surfacing and disposing of planed material, including furnishing the asphalt concrete for and constructing, maintaining, removing, and disposing of temporary asphalt concrete tapers, as specified in these special provisions and as directed by the Engineer.

10-1.20 CLEARING AND GRUBBING

Clearing and grubbing shall conform to the provisions in Section 16 "Clearing and Grubbing," of the Standard Specifications and these special provisions.

Vegetation shall be cleared and grubbed to a width of three feet (3') outside of roadway excavation and embankment slope lines. Where it is necessary for the Contractor to work outside these limits existing vegetation shall be carefully trimmed as required for the Contractor's operations as approved by the Engineer.

All existing vegetation outside the clearing and grubbing limits and outside of areas that are absolutely required for the Contractor's operations shall be protected from injury or damage resulting from the Contractor's operations. Certain mature trees on the edge of the clearing limits are not to be removed. The Contractor and the Engineer shall agree on, and mark all such trees, prior to the beginning of clearing operations.

A Pacific Gas and Electric utility line clearance certified tree trimmer must be used for clearing trees within 10 feet of energized power lines.

Merchantable timber shall be limbed and cut into log lengths and stockpiled on owner's property as directed by the Engineer.

10-1.21 EARTHWORK

Earthwork shall conform to the provisions in Section 19 "Earthwork," of the Standard Specifications and these special provisions.

Surplus excavated material shall become the property of the Contractor and shall be disposed of outside the highway right of way in accordance with the provisions in Section 7-1.13 of the Standard Specifications.

The requirements in the second paragraph of Section 19-5.03, "Relative Compaction (95 Percent)," of the Standard Specifications shall not apply.

Imported river gravel shall consist of a clean uniformly graded river gravel from a source approved by the Engineer.

Embankment shall be constructed of excavated materials, local borrow, imported borrow, or a combination of said materials. Local borrow shall be obtained only in areas where allowed by the Engineer. Imported borrow shall be obtained from a source approved by the Engineer

Embankment placement shall conform to the provisions of Section 19-6, " Embankment Construction, " of the standard specifications except for paragraph 19-6.03, "Payment."

Placing, grading and compacting material obtained from within the project or imported materials, will be measured and paid for at the contract price per cubic meter for Embankment. The embankment quantity to be

measured and paid for will be determined in the same manner as provided for roadway excavation and shall be the computed volume based upon the pre-project measured ground surface and the project grading plane. No adjustment in quantity will be made due to subsidence, consolidation, or compaction of natural ground.

Structure excavation and backfill will not be measured and paid for on storm drain, minor structures and culvert pipe, however these items will be measured and paid for on pre-cast or cast-in-place concrete box culverts.

10-1.22 EROSION CONTROL

Erosion control (Type D) shall conform to the provisions in Section 20-3, "Erosion Control," of the Standard Specifications and these special provisions.

Erosion control work shall consist of applying hydro-seeded erosion control materials, consisting of a mixture of fiber, seed, commercial fertilizer and water. The mixture shall be applied to embankment and excavation slopes and other graded or disturbed areas of the project including any borrow or disposal sites as determined by the Engineer.

Seed shall consist of the following:

Botanical Name (Common Name)	**Percentage Purity (minimum)**	**Percentage Germination (minimum)**	**Kg. Per Hectare**	**(Lbs. Per Acre)**
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Lotus Corniculatus Tenuifolius (Narrow leaf Birdsfoot Trefoil)	98	80	17	(15)

Seed shall be mixed on the project site in the presence of the Engineer.

The Erosion Control (Type D) materials shall be mixed and applied in the following proportions:

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Seed	95	(85)
Commercial Fertilizer	336	(300)

The mixture shall be applied within 60 minutes after the seed has been added to the mixture. An alternate seed mixture approved by the Engineer shall be substituted for the mixture specified herein for slopes adjoining landscaped or lawn areas.

Type "D" Erosion Control will be measured and paid for by the hectare based upon the horizontal measurement of the slope and other project areas to be seeded. Such payment shall include full

8 9 13

Attachment 3
Section 7-1.13 of the Caltrans Standard Specifications

9/4/13

STANDARD SPECIFICATIONS

STATE OF CALIFORNIA

BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION

JULY, 1999

ISSUED BY

DEPARTMENT OF TRANSPORTATION

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10413

ːional insured coverage shall be provided
ɪt providing coverage at least as broad as
nt form CG 2010, as published by the

ɪnce

le liability insurance, including coverage
·mobiles. The primary limits of liability
ɪed single limit each accident for bodily
ːlla or excess liability coverage required
Limits/Additional Insureds," shall also

ːs and Certificates

/ Insurance shall be provided under
ɔrm No. CG0001 as published by the
a policy form at least as broad as policy

ːeptable to the Department, including the
ts, shall be furnished by the Contractor to
ɪnstruction conference. The evidence of
e no cancellation, lapse, or reduction of
ior written notice to the Department.
of required insurance, for the General
Excess Liability policies shall set forth
icy and all exclusions which are added by
artment may expressly allow deductible
ːessive, overly broad, or harmful to the
ɪ No. CG 0001 or similar exclusions will
ˌtent with the requirements of this section.
is at the discretion of the Department.
ns or deductions by the Department, the
ductible amount and shall warrant that the
consistent with the requirements of this

s as are necessary to assure Contractor's
any insurance policy lapse or be canceled
shall, within thirty (30) days prior to the
furnish the Department with evidence of
ailure to continuously maintain insurance
ial breach of contract. In the event the
e coverage required, the Department may,
ːoverage and charge the expense to the
The required insurance shall be subject to
ːceptance of insurance certificates by the
lieve the Contractor of the Contractor's
Contract to indemnify, defend and hold
nd employees. Insurance coverage in the

minimum amounts set forth herein shall not be construed to relieve the Contractor for liability in excess of such coverage, nor shall it preclude the State from taking other actions as is available to it under any other provision of the contract or law. Failure of the Department to enforce in a timely manner any of the provisions of this section shall not act as a waiver to enforcement of any of these provisions at a later date.

7-1.12B(5) Self-Insurance

Self-insurance programs and self-insured retentions in insurance policies are subject to separate annual review and approval by the State of evidence of the Contractor's financial capacity to respond. Additionally, self-insurance programs or retentions must provide the State with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance.

7-1.12B(6) Miscellaneous

Nothing contained in the Contract is intended to make the public or any member thereof a third party beneficiary of the Insurance or Indemnity provisions of these Standard Specifications, nor is any term, condition or other provision of the Contract intended to establish a standard of care owed to the public or any member thereof.

7-1.125 Legal Actions Against the Department

In the event litigation is brought against the Department concerning compliance by the Department with State or Federal laws, rules or regulations applicable to highway work, the provisions of this Section 7-1.125 shall apply.

(A) If, pursuant to court order, the Department prohibits the Contractor from performing all or any portion of the work, the delay will be considered a right of way delay within the meaning of Section 8-1.09, "Right of Way Delays," unless the contract is terminated as hereinafter provided.

(B) If, pursuant to court order (other than an order to show cause) the Department is prohibited from requiring the Contractor to perform all or any portion of the work, the Department may, if it so elects, eliminate the enjoined work pursuant to Section 4-1.03, "Changes," or terminate the contract.

(C) If the final judgment in the action prohibits the Department from requiring the Contractor to perform all or any portion of the work, the Department will either eliminate the enjoined work pursuant to Section 4-1.03, "Changes," or terminate the contract.

(D) If the contract is to be terminated, the termination and the determination of the total compensation payable to the Contractor shall be governed by the provisions in Section 8-1.11, "Termination of Contract."

7-1.13 DISPOSAL OF MATERIAL OUTSIDE THE HIGHWAY RIGHT OF WAY

If the Contractor elects to dispose of materials at locations other than those where arrangements have been made by the Department, or, if material is to be disposed of and the Department has not made arrangements for disposal of the material, the Contractor shall make arrangements for disposing of the materials outside the highway right of way and shall pay all costs involved. Arrangements

11-13

shall include, but not be limited to, entering into agreements with property owners and obtaining necessary permits, licenses and environmental clearances. Before disposing of any material outside the highway right of way, the Contractor shall furnish to the Engineer satisfactory evidence that the Contractor has entered into agreements with the property owners of the site involved and has obtained the permits, licenses and clearances.

- When any material is to be disposed of outside the highway right of way, and the Department has not made arrangements for disposal of the material, the Contractor shall first obtain written authorization from the property owner on whose property the disposal is to be made and the Contractor shall file with the Engineer the authorization or a certified copy thereof together with a written release from the property owner absolving the State from any and all responsibility in connection with the disposal of material on the property. Before any material is disposed of on the property, the Contractor shall obtain written permission from the Engineer to dispose of the material at the location designated in the authorization.
- When material is disposed of as above provided and the disposal location is visible from a highway, the Contractor shall dispose of the material in a neat and uniform manner to the satisfaction of the Engineer.
- Where the Department has made arrangements with owners of land in the vicinity of a project for the disposal of materials on an owner's property, the arrangements are made solely for the purpose of providing all bidders an equal opportunity to dispose of the materials on the property. Bidders or Contractors may, upon written request, inspect the documents evidencing the arrangements between property owners and the Department. The Contractor may, if the Contractor so elects, exercise any rights that have been obtained, which may be exercised by a Contractor under the arrangements, subject to and upon the conditions hereinafter set forth.
- Such arrangements are not a part of the contract and it is expressly understood and agreed that the Department assumes no responsibility to the bidder or Contractor whatsoever in respect to the arrangements made with the property owner to dispose of materials thereon and that the Contractor shall assume all risks in connection with the use of the property, the terms upon which the use shall be made, and there is no warranty or guaranty, either express or implied, as to the quantity or types of materials that can be disposed of on the property.
- In those instances in which the Department has compiled "Materials Information" as referred to in Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work," the compilation will include the documents setting forth the arrangement made with some of the property owners for the disposal of material on those owners' properties. The inclusion of the documents therein shall not in any respect operate as a waiver of any of the provisions in this Section 7-1.13 concerning the documents.
- The bidder or Contractor is cautioned to make such independent investigation and examination as the Contractor deems necessary to be satisfied as to the quantity and types of materials which may be disposed of on the property and the rights, duties and obligations acquired or undertaken under the arrangement with the property owner.
- Notwithstanding that the Contractor may elect to dispose of materials on any such property owner's property, no material may be disposed of on that property unless the Contractor has first either:

ing into agreements with property owners
es and environmental clearances. Before
ghway right of way, the Contractor shall
ence that the Contractor has entered into
f the site involved and has obtained the

of outside the highway right of way, and
ments for disposal of the material, the
thorization from the property owner on
ade and the Contractor shall file with the
opy thereof together with a written release
State from any and all responsibility in
on the property. Before any material is
or shall obtain written permission from the
location designated in the authorization.
ove provided and the disposal location is
shall dispose of the material in a neat and
Engineer.
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f materials on an owner's property, the
urpose of providing all bidders an equal
on the property. Bidders or Contractors
documents evidencing the arrangements
partment. The Contractor may, if the
that have been obtained, which may be
arrangements, subject to and upon the

the contract and it is expressly understood
nes no responsibility to the bidder or
rangements made with the property owner
the Contractor shall assume all risks in
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may elect to dispose of materials on any
rial may be disposed of on that property

(1) Executed a document that will guarantee to hold the owner harmless from all claims for injury to persons or damage to property resulting from the Contractor's operations on the property owner's premises and also agree to conform to all other provisions set forth in the arrangement made between the Department and the property owner. The document will be prepared by the Engineer for execution by the Contractor, or
(2) Entered into an agreement with the owner of the disposal site on any terms mutually agreeable to the owner and the Contractor; provided that the Contractor shall furnish to the Engineer a release, in a form satisfactory to the Engineer, executed by the owner, relieving the Department of any and all obligations under the Department's arrangement with the owner.

- If the Contractor elects to dispose of material under (1), the use of the site shall be subject to the terms, conditions and limitations of the arrangement made between the property owner and the Department and the Contractor shall pay those charges that are provided for in the arrangement made by the Department with the property owner, and deductions will be made from any moneys due or that may become due the Contractor under the contract sufficient to cover the charges for the material disposed of.
- If the Contractor elects to dispose of material under (2), the Contractor shall pay those charges that are provided for in the agreement between the owner and the Contractor and deductions will not be made from any moneys due or that may become due the Contractor under the contract to cover the charges.
- Before acceptance of the contract, the Engineer may require the Contractor to submit written evidence that the owner of the disposal site is satisfied that the Contractor has satisfactorily complied with the provisions of either - (1), the arrangement between the Department and the owner, or (2), the agreement between the owner and the Contractor, as the case may be.
- Full compensation for all costs involved in disposing of materials as specified in this Section 7-1.13, including all costs of hauling, shall be considered as included in the price paid for the contract item of work involving the materials and no additional compensation will be allowed therefor.

7-1.14 COOPERATION

- Should construction be under way by other forces or by other contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to those limits, the Contractor shall cooperate with all the other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.
- When 2 or more contractors are employed on related or adjacent work, or obtain materials from the same material source, as provided in Section 6-2.02, "Possible Local Material Sources," or Section 6-2.03, "Mandatory Local Material Sources," each shall conduct their operations in such a manner as not to cause any unnecessary delay or hindrance to the other.
- Each contractor shall be responsible to the other for all damage to work, to persons or property caused to the other by their operations, and for loss caused the

13 of 13

[redacted]

STATE OF CALIFORNIA
CALIFORNIA C
NORTH COAST RE
1656 UNION STREET, RC
P.O. BOX 4946
EUREKA, CALIFORNIA 9.
(707) 443-1623

EDMUND G. BROWN JR., Governor

EXHIBIT NO. 16
APPLICATION NO.
1-86-200-A4 - HUMBOLDT CO PUBLIC WORKS DEPT
STAFF REPORT FOR ORIGINAL PERMIT CDP NO 80-P-69 (1 of 12)

STAFF REPORT
PUBLIC HEARING AGENDA

Application No: 80-P-69
Date Filed: 1-2-80
A. P. No:
Summary Date:

I. APPLICATION SUMMARY

Applicant: County of Humboldt
Department of Public Works
1106 Second Street
Eureka, CA 95501

Agent:

Development Description: Reconstruction and widening of 7.37 miles of Old Arcata Road-Myrtle Avenue to a roadway having two 12' wide traffic lanes, two 4' wide paved shoulders, and a 3' wide sloped unpaved shoulder in most locations and conversion of .75 acres of upland to farmed wetland or freshwater marsh. (The amount and location of proposed fill and mitigation areas are shown in Figure #3).

Development Location: The proposed project will be the reconstruction and widening of Old Arcata Road-Myrtle Avenue from Hall Avenue (1.4 miles northeast of the intersection of Myrtle Avenue and Harrison Avenue) to the Arcata city limits.

Approvals Received: The proposed project is estimated to take approximately 10 years to complete. The requirement for all preliminary permits to be in file prior to the filing of the application has been waived by the Executive Director pursuant to CAC Section 13053, finding that the degree of additional review required could more feasibly be accomplished on a permit by permit basis over the ten year construction period. These permits are required as a condition of approval.

II. STAFF RECOMMENDATION SEE ADDENDUM

The staff recommends that the commission adopt the following resolution:

A. Approval with Conditions

The commission hereby grants a permit for the proposed development subject to the conditions below on the grounds that, as conditioned, the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, is not located between the sea and the nearest public road, and as conditioned, will be in conformity with the public access and public recreation policies of Chapter 3, will not prejudice the ability of the local government having jurisdiction over the area to prepare a local coastal program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

III. CONDITIONS OF APPROVAL

1. Prior to development taking place, the applicant shall obtain all necessary permits or waivers from the Department of Fish and Game and the Regional Water Quality Control Board.

2. The applicant shall construct the mitigation site in accordance with the submitted mitigation plan. Any deviation from the proposed mitigation plan would require an amendment to this permit.

IV. FINDINGS & DECLARATIONS

SEE ADDENDUM

A. Project Description: The proposed project is a reconstruction and widening of 7.37 miles of existing rural roadway. The proposed roadway would have two 12' wide traffic lanes, two 4' wide paved shoulders that could serve as bicycle lanes, and a 3' wide unpaved shoulder. In some locations the unpaved shoulder will be eliminated or reduced by the construction of curbs or retaining walls. The project also includes the removal and retaining of approximately 9,000 sq. ft. of riparian vegetation and the creation of 1.75 acres of freshwater marsh as mitigation for 1.29 acres of farmed wetland that are proposed to be filled as a part of the proposed project

B. Wetlands: The primary issue raised by the proposed project is whether, and under what conditions, wetlands within the project limits can be filled consistent with the requirements of Section 30233 of the Coastal Act. To accomplish the proposed road widening the applicant plans to fill approximately 1.29 acres of farmed wetlands along the route of the proposed project. Section 30233 states that:

> "(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
>
> (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
>
> (2) Maintaining existing or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
>
> (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland; provided, however, that in no event shall the size of the wetland area used for such boating facility, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, be greater than 25 percent of the total wetland area to be restored.
>
> (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities.
>
> (5) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
>
> (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
>
> (7) Restoration purposes.

2 of 12

(8) Nature study, aquaculture, or similar resource-dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that no less than 80 percent of all boating facilities proposed to be developed or improved, where such improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities."

To be consistent with the provisions of Section 30233 a wetlands fill project must meet these four primary tests: (1) the use proposed in the wetland must be one of those permissable uses enumerated in Section 30233(a); (2) there should be no feasible less environmentally damaging alternative to the proposed project; (3) mitigation should be provided to minimize adverse environmental effects; and (4) the functional capacity of the wetland should be maintained or enhanced.

The Commission finds that the proposed project is consistent with these criteria. The proposed project is an incidental public service project in that it is a road widening project that is intended to provide safer travel for pedestrians, equestrians, and bicyclists. In addition, the proposed project will add to the public safety by improving sight distances on curves and at intersections. The Statewide Interpretive Guidelines for wetlands and wet environmentally sensitive habitat areas specifically state that while new road construction does not qualify as an "incidental" public service:

"When no other alternative exists, and when consistent with other provisions of this section, limited expansion of roadbeds and bridges necessary to maintain existing traffic capacity may be permitted."

The key phase here is "necessary to maintain existing existing traffic capacity." The proposed project is consistent with these guidelines since it consists of no additional lanes and is intended only to provide for a safer flow of traffic along the project route.

The proposed project also meets the requirement that no feasible less environmentally damaging alternative be available to the applicant. Alternatives in terms of location are limited since the project proposed is for an improvement of an existing route.

3912

Changes in the design of the proposed project were made in preliminary planning stages where feasible, to eliminate unnecessary fill of wetlands.

The Commission finds that the proposed project will maintain the functional capacity of the wetland being filled. The area to be filled for the most part is farmed wetland or former tidal marshes that have been diked. The historic tidelands around Humboldt Bay number in the thousands of acres. The areas proposed to be filled are located along the upland boundaries of these wetlands. The proposed fill will not impair the long term stability of the Humboldt Bay ecosystem due to its relatively small size and non-critical location and due to the mitigation measures that are provided as a part of the project proposal.

Section 30233 of the Coastal Act requires that feasible mitigation measures be provided to minimize adverse environmental effects, in this case the filling and net loss of primarily farmed wetlands. The Commission, in past actions, has found that a feasible means of mitigating for this loss is the creation of wetlands in another locale. The Commission finds that the proposed project is consistent with this requirement since, as a part of the project proposal, the applicant proposes to create approximately 1.75 acres of freshwater (possibly brackish) marsh. The acreage created as mitigation will exceed by approximately .46 acres the area proposed to be filled. The Commission finds this to be an adequate replacement or mitigation since the area proposed to be filled is farmed wetland and has a relatively lower value in terms of productivity than the freshwater/brackish marsh that is proposed to be created as a part of the proposed project.

Environmentally Sensitive Habitat Areas: Section 30240 of the Coastal Act states:

> "(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.
>
> (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

The proposed project will result in the removal of approximately 9,000 sq. ft. of riparian vegetation due to the road widening and to a realignment in certain locations of the roadway. This removal is consistent with policies reviewed by the State Commission when they reviewed Humboldt County's Coastal Land Use Policies and Standards. Those policies allow for roadway improvement projects in riparian areas where it can be found that those projects are limited to operational improvements such as curve corrections, expansion of substandard roadway shoulders, and construction of bikeways; all elements of the proposed project.

The Commission further finds that mitigation measures that have been incorporated into the project design to reduce sedimentation will provide the level of protection mandated by Section 30210(b) for development in areas adjacent to environmentally sensitive habitat areas.

California Environmental Quality Act: The Commission finds that the proposed project will have no significant adverse environmental effects within the meaning of the California Environmental Quality Act in that feasible less environmentally damaging alternatives to the proposed project were considered and incorporated

into the project design. In addition, mitigation measures designed to minimize disturbance in areas adjacent to environmentally sensitive areas have been included in the project proposal. The creation of 1.75 acres of wetland has been proposed to mitigate the loss by fill of 1.29 acres of farmed wetland.

The Commission further finds that the proposed project is a roadway safety improvement that will not increase roadway capacity and will not thereby significantly act as an inducement to growth in the rural areas served by Myrtle Avenue/Old Arcata Road. The proposal is therfore consistent with the provisions of Section 30254 of the Coastal Act which requires public works to be sited and designed to accommodate only development permitted consistent with Coastal Act policies.

Local Coastal Program: The Commission finds that the approval of the proposed project will not prejudice the ability of Humboldt County to prepare a local coastal program in conformance with the requirements of Chapter 3 of the Coastal Act. The project, as proposed with mitigation measures included as part of the project proposal, is consistent with the policies set forth in Humboldt County's Coastal Land Use and Policies Standards. Specifically, policies that address the removal of riparian vegetation for roadway construction purposes; filling of wetlands for incidental public service purposes; and mitigation measures for development adjacent to environmentally sensitive habitat areas.

5912

ADDENDUM

County of Humboldt
Dept. of Public Works
80-P-69

Staff Note: Since the original staff report was prepared, the applicant's proposal has been amended to reflect concerns of Department of Fish and Game staff and commission staff which arose during an inspection of the proposed project site. The amendments made include changes made in the site plan at the mitigation site at Freshwater Corners as well as the delineation of additional wetlands that will be filled as a result of the proposed project.

The following conditions and findings shall amend and in some cases add to the conditions and findings enumerated in the original staff report.

Conditions of Approval

3. Wetlands Mitigation

Prior to the issuance of the permit, and therefore prior to construction, the applicant shall execute a development and management plan in cooperation with the Department of Fish and Game and ratified by the North Coast Regional Coastal Commission or its successor agency for restoration of the land identified in the project proposal as mitigation area to freshwater marsh and wetland habitat and retention of the area in perpetuity for fish and wildlife purposes. The mitigation area has been proposed as compensation for the loss of farmed wetlands as a result of development pursuant to this permit. The development and management plan shall include: Site plan; specifications as to the time and manner in which the work shall be completed; a description of the expected revegetation after a specific time period; and provisions for additional work at the site to remedy, where possible, areas having inadequate revegetation.

In addition, the plan shall include contingency plans that provide for an additional mitigation area of 0.50 acres if adequate revegetation does not take place on the portion of the Freshwater Corners mitigation area adjacent to the existing channel and having an elevation of 1.0± msl.

4. Open Space Easement

Prior to the issuance of this permit, and therefore construction, the applicant shall record an offer to dedicate to a public agency or private association approved by the executive director an open space easement over the mitigation areas delineated in the mitigation plans on file in the commission offices. The offer to dedicate shall be recorded free of prior liens and encumbrances except tax liens, shall be irrevocable for a period of 21 years running from the date of recordation, and shall run with the land binding the landowner, his/her heirs, assigns, and successors in interest to the subject property. Prior to recordation, the form and content of the document shall be reviewed and approved by the executive director of the commission.

Said easement shall provide for continuing maintenance activities or any alterations that may be necessary to ensure protection or enhancement of the mitigations areas wetland habitat values.

6 of 12

Findings and Declarations

F. Project Description:

Since the original submission of the permit application and mitigation plan, the applicants representative, commission staff and the representative of the Department of Fish and Game made a site inspection to attempt to further resolve potential conflicts with Coastal Act policies. That site inspection resulted in minor changes in the project design as well as the delineation of additional areas of wetland fill along the project route. Changes in project design include the retention of additional riparian vegetation along the western boundary of mitigation area adjoining Freshwater Creek and changes in the grading plan at the mitigation area that will result in the creation of additional freshwater marsh acreage. These changes are illustrated in revised mitigation area plan and are reflected in Exhibit 4(a) which shall replace Exhibit 4 in the original staff report.

G. Wetlands Mitigation

The commission finds the proposed project, as conditioned, is consistent with Coastal Act policies and precedents set in previous commission actions, requiring the provision of mitigation measures designed to minimize adverse environmental effects. The adverse environmental effect being the loss by fill, of farmed wetlands and the mitigation being the creation of 1.68 acres of freshwater wetlands at Freshwater Corners and along Old Arcata Road at P.M. 6.42.

The commission finds that the condition requiring an open sapce easement and a management plan for the mitigation sites will insure the long-term protection of wetland habitat values on the proposed sites. The commission further finds that the terms of the management agreement, by requiring contingency plans to provide additional mitigation if wetland vegetation does not become established on the 0.50 acres of the mitigation area that is located adjacent to Freshwater Creek and at elevation 1± foot above mean seal level, provides safeguards that will insure that wetlands habitat values after project completion are, at a minimum, equal to or greater than those wetlands values existing prior to commencement of permitted activities.

H. Flood Control

Section 30236 of the Coastal Act states:

> Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

7912

The commission finds that the widening of the channel of Freshwater Creek to the west of, and adjacent to, Freshwater Corners bridge is consistent with the provisions of Section 30236 of the Coastal Act in that the project as proposed is necessary to protect existing development in the Freshwater Corners area, that is periodically flooded by the waters of Freshwater Creek. The commission further finds that no feasible alternative exists that is less environmentally damaging.

I. Alternative to Wetlands Fill

The commission finds that, where feasible, fill of wetlands along the proposed project route has been avoided or minimized. Exhibits 5 (a-c) reflect the analysis that was made by the applicant regarding the feasibility of avoiding the filling of farmed wetlands along the project route at the locations specified in those exhibits.

8 of 12

HUMBOLDT COUNTY
DEPT. OF PUBLIC WORKS
80-P-69

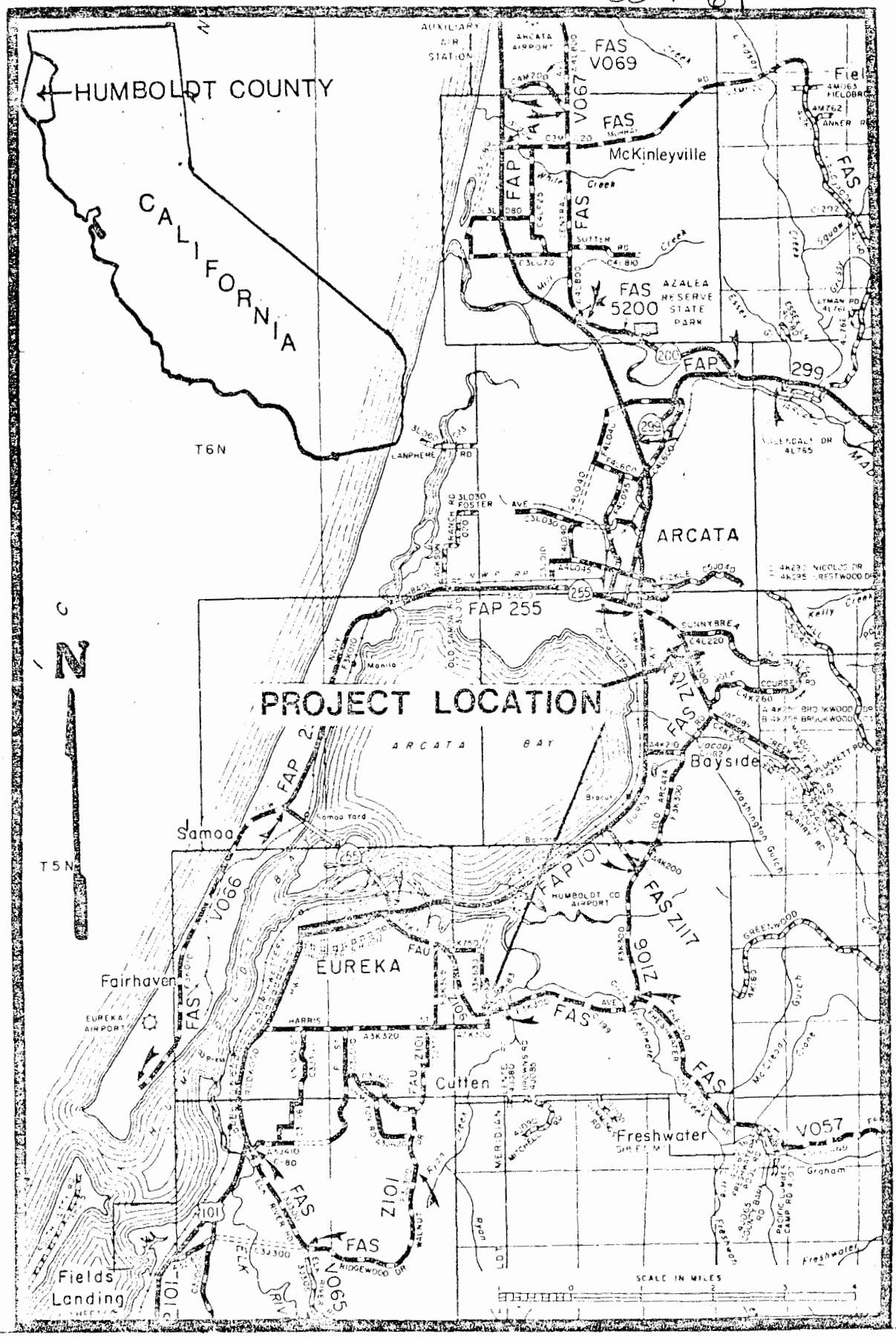

Figure 1. Old Arcata Road/Myrtle Avenue Widening Project Location.

9412

EXHIBIT #1

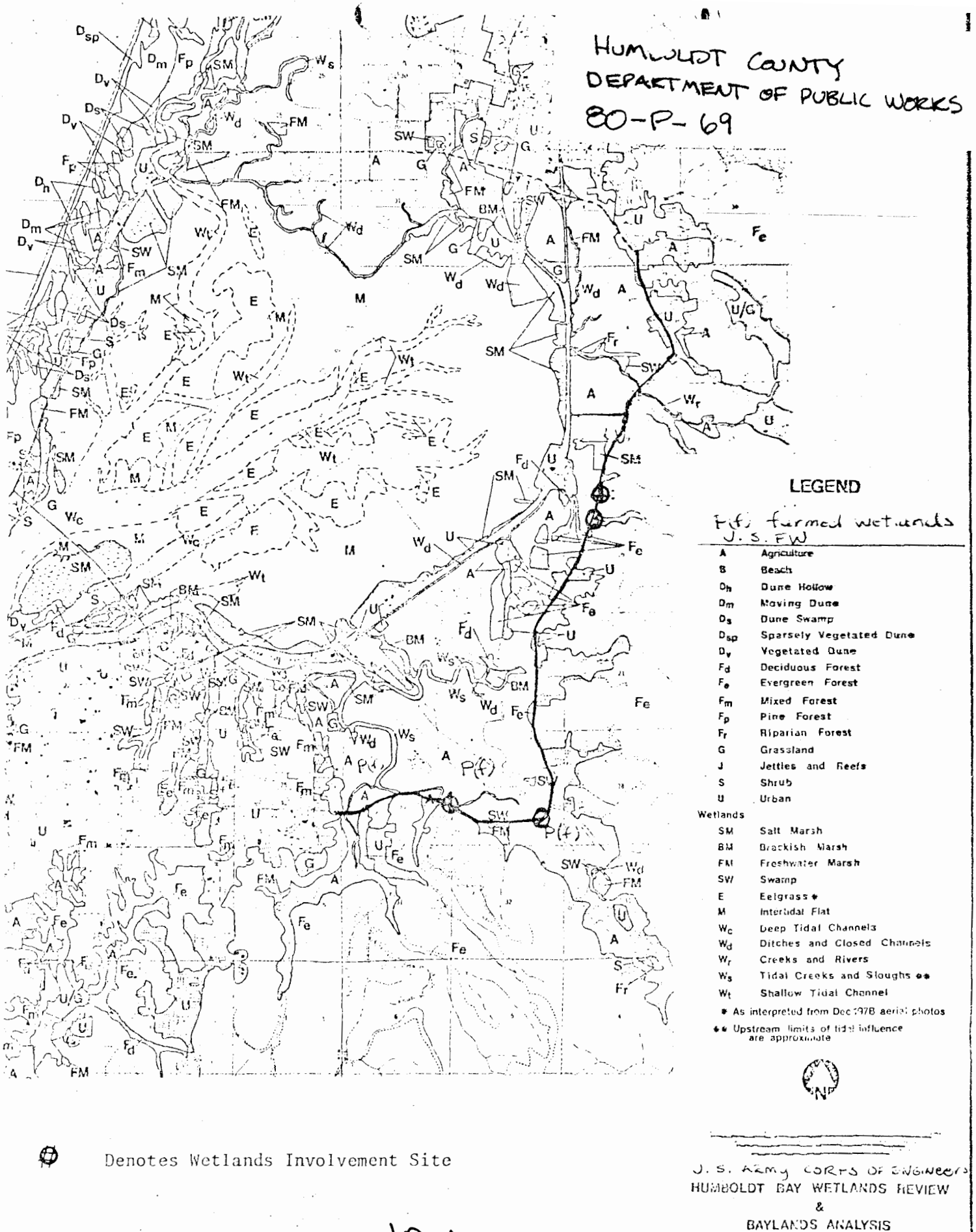

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Figure 5. Old Arcata Road/Myrtle Avenue Widening Project Habitat Types and Wetlands.

EXHIBIT #2

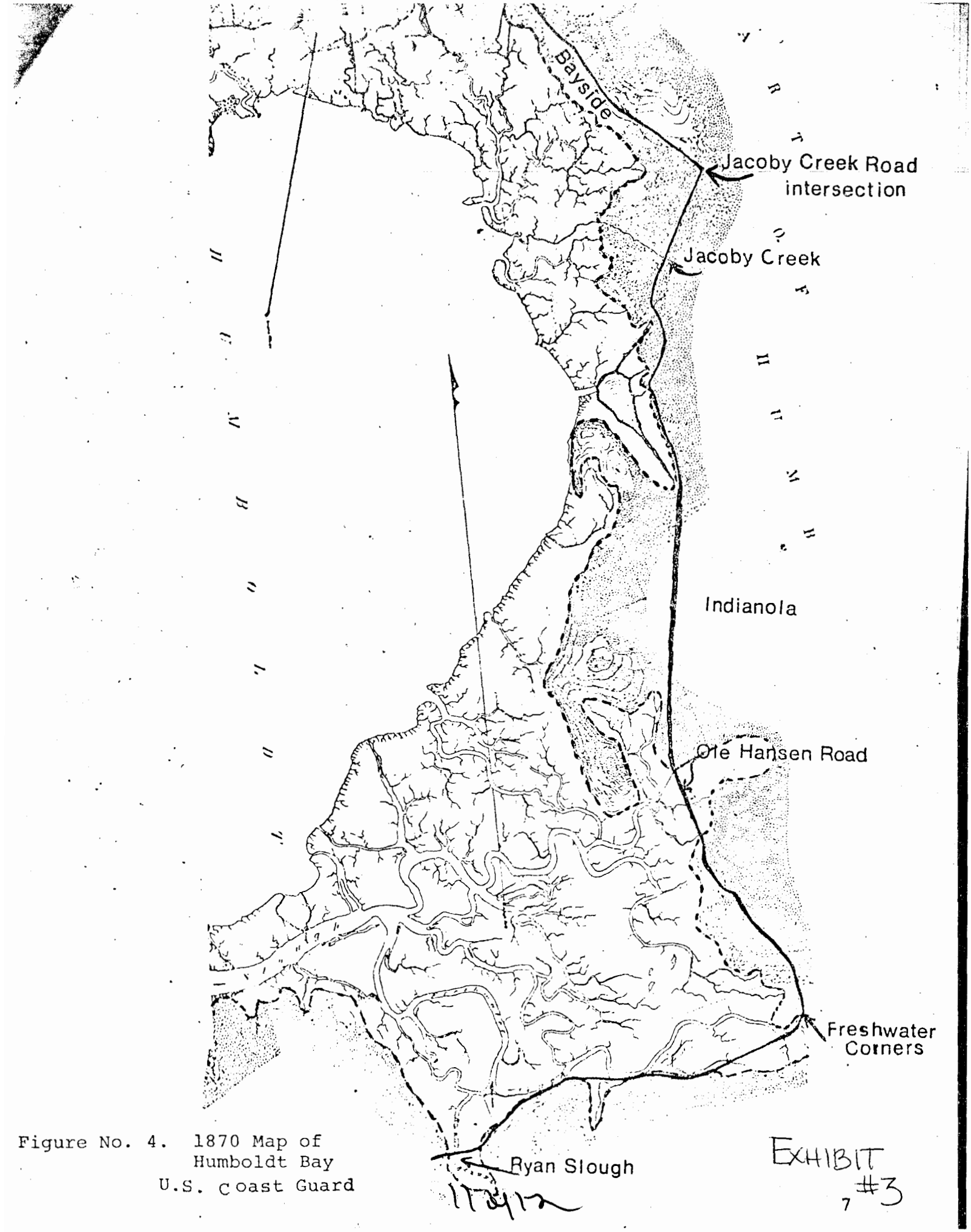

Figure No. 4. 1870 Map of
Humboldt Bay
U.S. Coast Guard

EXHIBIT #3

TABLE 1. Location, quantity and type of wetlands involved in the Old Arcata Road/Myrtle Avenue Widening Project.

LOCATION	POST MILE	ACRES	WETLAND TYPE	PREDOMINANT VEGETATION	SOIL
Freshwater Corners	3.15-3.59	1.19	farmed wetland	white clover, red clover fescue, rye grass	(Lo 3) Loleta loam (Ru 7) Russ fine sandy loam
Pigeon Point Road	2.73-2.90	.05	farmed wetland	rye grass, white clover	(Ba 3) Bayside silty clay loam
Rocky Gulch	6.16-6.22	.03	farmed wetland (Alluvial)	rye grass, white clover	(Ru 2) Russ silt loam
	6.46-6.53	.01	freshwater marsh	sedge, spike rush, bull rush, hairgrass, nit grass	(Ru 2) Russ silt loam
Total Wetlands Filled		1.28			
Freshwater Corners	3.15-3.59	1.53	Farmed wetland freshwater marsh sublittoral marsh riparian woodland	Predicted Vegetation: Willow, alder, sedge, spikerush, bullrush, farmed wetland	
	6.42	0.22	freshwater marsh	sedge, rush	
Total Wetlands Mitigated		1.75			

EXHIBIT #4

State of California, Edmund G. Brown Jr., *Governor*

California Coastal Commission
North Coast Region
1656 Union Street, Room 151
P.O. Box 4946
Eureka, California 95501
(707) 443-1623

July 13, 1981

Mr. Don Tuttle
County of Humboldt
1106 Second Street
Eureka, CA. 95501

RE: Immaterial Amendment to
Permit No. 80-P-69

Dear Mr. Tuttle:

The District Director of the California State Coastal Commission, North Coast District, hereby grants an immaterial amendment to the above captioned permit pursuant to the California Administrative Code, Title 14, Sections 13164-13168.

The original permit provided for the reconstruction and widening of 7.37 miles of Old Arcata Road-Myrtle Avenue.

The immaterial amendment will grant the applicant permission to re-word condition four.

Sincerely,

RICHARD G. RAYBURN
District Director

RGR:lp

EXHIBIT NO. 17
APPLICATION NO.
1-86-200-A4
HUMBOLDT CO. PUBLIC WORKS DEPT.
IMMATERIAL AMENDMENT TO CDP NO. 80-P-69 (1 of 2)

PUBLIC NOTICE

The Humboldt County Department of Public Works has requested a non-administrative amendment to the Old Arcata Road - Myrtle Avenue Coastal Permit No. 80-P-69 Condition No. 4. The wording of the condition would be changed from "Prior to the issuance of this permit, and therefore construction, the applicant shall record an offer to dedicate...an open space easement..." to "Prior to construction the applicant shall convey an open space easement to the California Department of Fish and Game over the mitigation areas delineated in the plans on file in the Commission office."

CALIFORNIA COASTAL COMMISSION
NORTH COAST AREA
631 HOWARD STREET, 4TH FLOOR
SAN FRANCISCO, CA 94105
(415) 543-8555

Project Approved: May 14, 1981
Amendment Request Filed: Nov. 6, 1986
Staff: Linda Locklin
Hearing Date: December 9, 1986
Revised Findings: Feb. 5, 1987
Hearing Date: February 25, 1987
Commission Revised Findings 2/25/87

REVISED FINDINGS TO REFLECT COMMISSION ACTION OF DECEMBER 9, 1986

PROJECT DESCRIPTION

APPLICANT: County of Humboldt, Department of Public Works

PERMIT NO. 1-86-200-A (Formerly 80-P-69)

PROJECT LOCATION: Myrtle Avenue, at Mitchell Road intersection, adjacent to Ryan Slough.

PROJECT DESCRIPTION: Amendment to previously approved project, 80-P-69, which allowed the reconstruction and widening of 7.37 miles of Old Arcata Road-Myrtle Avenue. The proposed project is to widen Myrtle Avenue and will result in the filling of 44,329 square feet of wetland.

LOCAL APPROVALS RECEIVED: Humboldt County Negative Declaration, June 10, 1986

SUBSTANTIVE FILE DOCUMENTS: Humboldt County certified Local Coastal Program

COMMISSIONERS ELIGIBLE TO VOTE: Contreras, Garrett, King, MacElvaine, Malcolm, McInnis, McMurray, Nathanson, McCabe, Wright and Wornum

Doc. No. 0916P

EXHIBIT NO. 18
APPLICATION NO.
1-86-200-A4 - HUMBOLDT CO. PUBLIC WORKS DEPT.
REVISED FINDINGS STAFF REPORT FOR CDP AMENDMENT NO. 1-86-200-A
(1 of 8)

RECOMMENDATION

Approval with Conditions

The Commission hereby approves a permit for the proposed amendment, subject to the conditions below, on the grounds that, as conditioned, the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

STANDARD CONDITIONS: See Conditions attached.

SPECIAL CONDITION:

1. Prior to commencement of construction, applicant shall pay to the State Coastal Conservancy, $0.08 per square foot for each square foot of wetland that is filled by this project. This money is to be used to restore and enhance wetlands. Evidence of this payment shall be submitted to the Executive Director.

FINDINGS AND DECLARATION

1. Project Description

The proposed project is to improve the intersection of Myrtle Avenue with Upper and Lower Mitchell Avenues, in the County of Humboldt. The proposed widening of the road will result in filling over one acre near Ryan Slough, which constitutes a portion of the slough margin classified as a farmed wetland. The purpose of the project is to improve the traffic safety of the area, by redesigning the intersection to current design standards.

2. Background

In 1980, the North Coast Regional Commission approved the reconstruction and widening of 7.37 miles of Old Arcata Road - Myrtle Avenue. The project was projected to take ten years to complete. The Commission allowed 1.28 acres of wetland to be filled, and the applicant included the creation of 1.75 acres of freshwater marsh as mitigation to the wetland fill.

The project upgraded the road, an arterial collector between Eureka and Arcata, to provide safer travel. Improvements included shoulder widening, increased sight distance, and consistent roadway widths. The project met Federal Highway Standards and was partially funded by the federal government. (see Exhibit 2)

3. Wetland Resources

As proposed, the project will result in the fill of over one acre of wetland adjacent to Ryan Slough: 44,329 sq. ft. or 1.023 acres. The project includes both on-site mitigation, (removal of 8,786 sq. ft. of the existing fill to the

west of the project site) and the payment of $0.08 per square foot for the remaining 35,543 sq. feet to the California Coastal Conservancy.

The existing roadway is 300 feet south of Ryan Slough. The slough, one of the larger in Humboldt Bay, connects to Eureka Slough and thence to Humboldt Bay. The slough is an important habitat area. The proposed area for fill is currently used for grazing land.

Section 30233 of the Coastal Act states in part:

> (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
>
> > (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
> >
> > (7) Restoration purposes.
> >
> > (8) Nature study, aquaculture, or similar resource dependent activities.
>
> (c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

The Commission's "Statewide Interpretive Guidelines for Wetlands and Other Wet Environmentally Sensitive Habitat Areas" help to interpret the wetland resource policies of the Coastal Act. The guidelines, which provide background information only, acknowledge Section 30233(5) which allows the installation of incidental public services, but only when they create temporary impacts. Only when no other alternatives exist, and when consistent with the other provisions of Section 30233, limited expansion of roadbeds and bridges necessary to maintain existing traffic capacity may be permitted.

Section 30240 of the Coastal Act states:

> (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

Coastal Act Section 30121 defines wetlands as land "which may be covered periodically or permanently with shallow water." Wetland areas, which include marshes, mudflats and lagoons, serve many functions: to serve as nutrient sources and genetic reservoirs; to provide some of the world's richest wildlife habitats; and to absorb pollutants and storm energy.

Wetlands are highly diversive and productive. The combination of shallow and deep water, and the variety of vegetation and substrates produce far greater possibilities for wildlife feeding, nesting and resting than is found in less diverse areas. Individual wetlands may be inhabited by hundreds of species of birds, mammals, fish and smaller organisms. Abundant microorganisms serve as food for crabs, clams, oysters, and mussels which live in the tidal flats.

Wetlands' natural abundance draws people for recreation such as clamming, bird watching and fishing. Fish such as the king and silver salmon and steelhead trout live much of their lives in the ocean but return to freshwater to spawn. Commercially important fish such as herring, anchovy and California halibut are also found in California's estuaries.

The agricultural bottomlands, such as those at Ryan Slough, provide feeding, resting, and nesting habitats for a large variety of birds. Species have been estimated between 176 (ERC, 1974) and 129 (Hoff, 1979). The agricultural lands are especially important to shorebirds, waterbirds, raptors, upland game birds, and songbirds. In the Eureka-Arcata bottoms, plowed fields, heavily grazed pasture, croplands, sloughs, and marshes have been found to support the highest diversity and abundance of birds (Hoff, 1979). Waterfowl commonly use pastures for feeding and nesting, particularly during wet periods. The agricultural bottomlands and grasslands also provide habitat for a variety of mammals including raccoon, beaver, muskrat, bats, meadow sole, moles, gophers, rabbits, grey fox, skunk and black-tailed deer.

The certified Humboldt County Local Coastal Program contains the following Natural Resources Protection Policies and Standards:

A. PLANNED USES

Humboldt Bay is the largest wetland and estuarine habitat in the coastal zone, containing approximately 23% of the coastal wetlands in California. Its waters hold a diverse fish fauna with 106 species, including anchovies, coho and silver salmon, steelhead, cutthroat troat, smelts, surfperch, rockfishes, sandab, flounder and sole. Thirty-six species of fish utilize the Bay as a spawning area or nursery ground. The invertebrate biota of the Bay include species in sixteen major invertebrate groups, including gaper, Washington, littleneck, and softshell clams, and Dungeness crabs. Approximately 750 acres of the Bay's bottom and channels are utilized for commercial oyster production providing approximately 70% of California's total oyster production. Its rich channels, mudflats and marshes annually support over 5.8 million days of use by waterfowl and 7.7 million days of use by shorebirds.

Peregrine falcon hunt over its marshes and farmlands, and rare plants grow in brackish and saltwater marshes.

These fish and wildlife resources support more than 30,000 days of recreational angling and approximately 18,000 days of waterfowl hunting annually. For these reasons, the Bay is one of the prime marine resources, wetland and estuarine areas in the entire coastal zone.

Within this planning area it is estimated that there are approximately 970 acres of freshwater marsh, 250 acres of brackish marsh, 180 acres of freshwater marsh, 185 acres of swamp, 300 acres of intertidal mudflat, 760 acres of beaches, 3460 acres of dunes, and approximately 6500 acres of "farmed wetland." While the sheer extent of these habitats provides important natural resource values, the mix of these habitats is a significant feature of the Humboldt Bay area. Many wildlife and fish species use a variety of habitats during their lifetime, or even during the course of a single day. The availability of different habitats is essential to the survival of these organisms.

The LCP designates all transitional agricultural lands, such as the project site, Agriculture Exclusive. The transitional agricultural lands policies are designed to maintain existing agricultural land uses while preventing practices that would adversely affect existing wildlife habitats. The LCP also designates Ryan Slough as an environmentally sensitive habitat area.

Section 3.30B2 of the LCP also states:

Allowable Uses in Transitional Agricultural lands

Within transitional agriculture lands planned for Agriculture Exclusive, agriculture is the principal use in these areas, but shall maintain long term habitat values and minimize short term habitat degradation by ensuring new development is consistent with the provisions of this policy. Close cooperation among the County, Coastal Commission, Agricultural Stabilization and Soil Conservation Service, Agricultural Extension, farm organizations, and fish and wildlife agencies will be necessary in order to ensure that new agricultural development will be permitted consistent with these objectives. Changing agricultural practices may require periodic review and modification of this policy.

b) Diking and filling for new development within transitional agricultural lands shall be limited to the principal uses in the Agriculture Exclusive (AE) land use designation, including construction of spillways and modification or repair of existing dikes threatened by erosion; oil and gas wells (consistent with Section 3.27 of this plan and 30607.1 of the Coastal Act); and incidental public service purposes.

The proposed project is consistent with the County's LCP Policies. The Plan calls for the long term protection of habitat values. It also limits filling in farmed wetlands to uses to support continued agriculture. The road is necessary for the transport of agricultural products. Habitat values of farmed wetlands will continue to exist as long as cattle continue to graze on pastures.

In completing the Negative Declaration for the project, the County reviewed four alternatives to improve that roadway intersection. (see attached Negative Declaration, Exhibit 1). The County states that the road way needs upgrading to correct a bad intersection which results from two residential roads (Upper and Lower Mitchell Roads) exiting in close proximity onto Myrtle Avenue. Reported accidents at this intersection between 1975 and 1986 involved 25 vehicles and has caused ten injuries.

The County states that the improvements to Myrtle Avenue approved under 80-P-69, of which this amendment site is in the middle of the stretch of roadway improvements, will result in increased speeds of 5-10 mph. Also, as the nearby community develops, additional traffic will be generated, thus adding to the use of the intersection. One concern that the poor geometry of the intersection causes is a turning maneuvering by the school bus that has it crossing the center line into opposing traffic flow. This situation will be exacerbated when the traffic level increases. Lower Mitchell Road serves not only residential traffic, but also provides access to a landfill. Given the existing traffic level, the County believes that the intersection needs to be redesigned to current standards.

The Negative Declaration reviews four alternatives. All four involve wetland fill, varying from .1, .7, .8, and 1.02 acres each. The County found that the other alternatives were not less environmentally damaging for various reasons. The following summarizes the alternatives (see Exhibit 1 for detailed analysis):

Alternative #1 - Removal of 1-1/2 acres of forest habitat. Potential for creating unstable slopes and increased soil erosion.

Alternative #2 - Cuts through potentially unstable slopes and would require $95,400 to buy a large right of way.

Alternative #3 - Involves cut in unstable slopes through 4.1 acres of forest habitat, and an increased road angle resulting in more energy consumption for vehicles.

Alternative #4 - involves widening the intersection by moving Myrtle Avenue 60 feet toward Freshwater Slough. This is the chosen alternative. Fills 1.02 acres of wetland.

Aside from improving the intersection to reduce the traffic hazard, the County has two other concerns. First, as the amendment site is located in the middle of the 7 mile-long stretch of roadway improvement currently underway, the County wants the upgraded roadway to physically match with the Myrtle Avenue/Mitchell Avenue intersection. Also, as the road project is partially federally funded, the new intersection must meet federal standards to qualify for funding. The three alternative road improvements reviewed in the Negative Declaration meet federal standards but are thus not reimbursable due to the distance these improvements are from the FAS route.

In approving the original road improvement project, the Commission found that the filling of 1.29 acres over a stretch of seven miles was consistent with Coastal Act Section 30233(5). The Commission found that there were no feasible less environmentally damaging alternatives, that the project was an improvement of an existing route, that the project was necessary to maintain existing traffic capacity (a safer flow of traffic), and that the creation of 1.75 acres of wetland mitigated the loss. It is for these same reasons that the Commission finds the amendment consistent with the Coastal Act. Additionally, the Commission finds that given the small area of the fill, less than one acre, it is appropriate to allow in-lieu payment to the State Coastal Conservancy. This fee will provide off-site mitigation which will restore and enhance wetland resources. The Commission finds that the payment of $0.08 per square foot is representative of land acquisition costs for mitigation projects in the area.

Section 30607.1 of the Coastal Act states in part:

> "Where any dike and fill development is permitted in wetlands in conformity with this division, mitigation measures shall include, at a minimum, either acquisition of equivalent areas of equal or greater biological productivity or opening up equivalent areas to tidal action; provided, however, that if no appropriate restoration site is available, an in-lieu fee sufficient to provide an area of equivalent productive value or surface areas shall be dedicated to an appropriate public agency, or such replacement site shall be purchased before the dike or fill development may proceed."

As there is no significant on-site area for restoration (other than the proposed removal of 8,786 sq. ft. of fill), it is appropriate to allow the applicant to pay an in-lieu fee to the State Coastal Conservancy. As so conditioned, the project is consistent with Section 30607.1 of the Coastal Act.

The Commission also finds that the proposed project, as conditioned, is consistent with the wetland policies of the Coastal Act. The project is the least environmentally damaging alternative and it is an incidental public service. Therefore, the Commission finds that the project as conditioned, is consistent with Section 30233 and 30240 of the Coastal Act, as the project will not result in loss of wetland habitat or environmentally sensitive habitat areas.

CEQA/LCP

As outlined in the findings above, there are no feasible less environmentally damaging alternatives available. As noted above, the Commission must balance traffic safety with resource protection. Therefore, the Commission finds that the project would not create significant adverse impacts as defined within the meaning of the California Environmental Quality Act.

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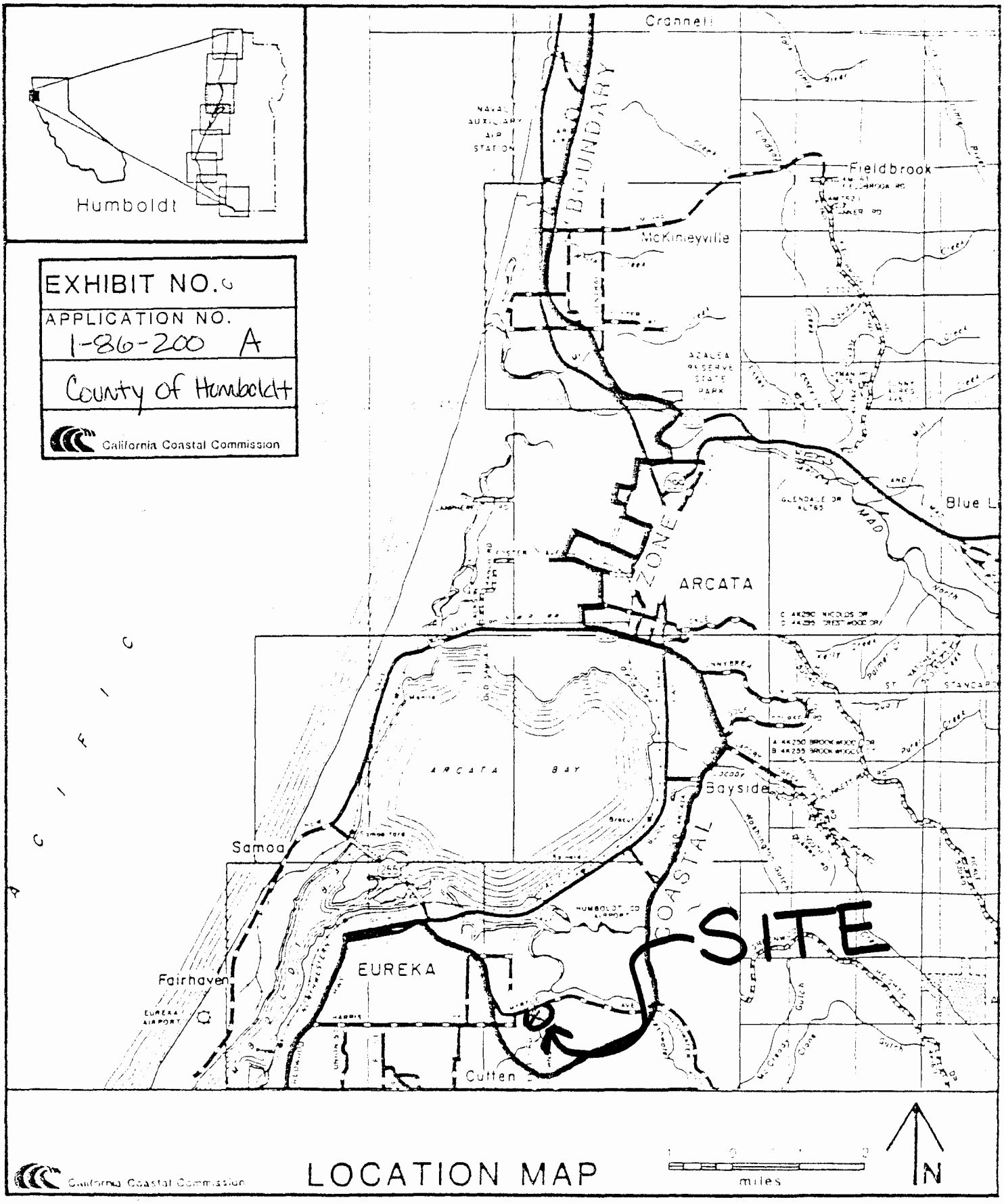

Humboldt
EXHIBIT NO. 6
APPLICATION NO.
1-86-200 A
County of Humboldt
California Coastal Commission
Crannell
NAVAL AUXILIARY AIR STATION
BOUNDARY
Fieldbrook
McKinleyville
AZALEA RESERVE STATE PARK
Blue L
ARCATA
ZONE
COASTAL
ARCATA BAY
Bayside
Samoa
SITE
EUREKA
Fairhaven
EUREKA AIRPORT
Cutten
LOCATION MAP
miles
N

CALIFORNIA COASTAL COMMISSION

NORTH COAST AREA
631 HOWARD STREET, 4TH FLOOR
SAN FRANCISCO, CA 94105
(415) 543-8555

EXHIBIT NO. 19
APPLICATION NO.
1-86-200-A4 - HUMBOLDT CO. PUBLIC WORKS DEPT.
REVISED FINDINGS STAFF REPORT FOR CDP NO. 1-89-31 (CDFG) (1 of 10)

SFS

Filed: March 20, 1989
49th Day: June 17, 1989
180th Day: October 28, 1989
Staff: L. Locklin
Revised Staff Report: July 21, 1989
Hearing Date: August 9, 1989
Findings Revised to reflect Commission action of August 9, 1989

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 1-89-31

APPLICANT: CALIFORNIA DEPARTMENT OF FISH AND GAME AGENT: Calvin Hampy

PROJECT LOCATION: Fay Slough, between Highway 101 and Indianola Road, Humboldt County, APN 402-171-07 and 08

PROJECT DESCRIPTION: Enhancement plan involving removal of 11.57 acres of fill, enhancement of 120 acres of wetland, construction of 550 ft. of new dike.

Lot area: 320 acres

LOCAL APPROVALS RECEIVED: Negative Declaration granted.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions. See Attached.

III. Special Conditions.

1. Spoils Disposal:

If any spoils are proposed to be disposed off-site and in the Coastal Zone, this disposal shall receive prior approval from the Executive Director, to ensure that the spoils are not placed in any sensitive resource area.

2. Management Plan:

Any future management plan shall be submitted to the Commission for their review and approval.

3. Monitoring Plan

PRIOR to commencement of construction, a work program shall be developed for the implementation of a monitoring program and follow-up study to determine the effectiveness of the project and identification of necessary maintenance, to the Executive Director for his review and approval. For a minimum of 5 years, Annual Summary Reports shall be submitted to the Executive Director.

4. USCOE

PRIOR to commencement of any fill activities, permittee shall provide to the Executive Director a copy of a U.S. Army Corps of Engineers permit, letter of permission, or evidence that no Corps permit is necessary.

This permit incorporates the conditions and requirements imposed by the U.S. Army Corps of Engineers approval. If compliance with the Army Corps of Engineers requires a change to the project plans as approved by this permit, the permittee shall also submit such changes to the Executive Director for review and approval or an amendment to the permit if the Executive Director determines that the change(s) is substantial in nature.

IV. Findings and Declarations.

The Commission hereby declares and finds:

1. Project History:

This item was scheduled for the Commission's April 12, 1989 meeting, on the consent calendar. As questions were raised at that hearing, the Commission decided to continue the item and place it on a regular calendar to provide for a full public hearing.

The five questions raised at the hearing were:

1. Was adequate public notice provided to all adjacent and interested parties?

Yes. Staff records indicate that this noticing was done in accordance with our regulations.

2. Concern was expressed about the access road and parking lot. Will they interfere with the wetland restoration program?

No. Both the access road and the parking lot are located on areas already filled.

3. The staff report states that there is 550 yards of dikes proposed. The attached maps show more dike than this. What is the correct dike length proposed?

The staff report states that 550 ft. of new dike will be constructed. This is the correct figure.

4. A concern was expressed for an area on the northeast area the property. Will the project affect an adjacent wetland area and could it affect future wetland mitigation on an adjacent upland parcel?

No. The project will not affect the riparian area. The height of the dikes in this area is +3 ft., while the adjacent riparian area is +5 ft.

As the project is limited to the State's property boundaries, it does not affect the ability of an adjacent landowner to use that property for wetland mitigation.

5. What is the status of the management plan? Why isn't it accompanying the project proposal?

The management plan is substantially complete, and is discussed in the findings. In accordance with a recent agreement with Humboldt County, final adoption of the plan will occur after the Board of Supervisors review it.

2. Project Background:

The Fay Slough Wildlife Area (formerly known as the Mid-City Ranch) was acquired in 1987 by the Department of Fish and Game with Proposition 19 (1984) funds through the Wildlife Conservation Board. It has been classified (under Section 550, Title 14, CCR) as a State Wildlife Area, to be managed by the California Department of Fish and Game. Proposition 19 funds are expressly earmarked for the acquisition, restoration and management of coastal wetlands. Management direction is therefore primarily directed towards achieving wetland objectives.

The existing Wildlife Area is 350 acres in size and consists almost entirely of diked former tidelands of Humboldt Bay. The acquisition of an additional 150 acres of adjacent diked former tidelands has been approved by the California Conservation Board. This acquisition is expected to be completed in 1989. Once acquired, this land will become a part of the Fay Slough Wildlife Area and the total acreage will be 500.

Historically, these lands were used for livestock grazing and dairy farming. The entire area is composed of Bayside soils and is periodically flooded during the winter from rainwater runoff. A narrow strip of alders and willows borders the eastern edge of the property and the Fay Slough levee supports some low-growing shrubs such as coyote bush, blackberry and lupine. Otherwise, the property is vegetated entirely with pasture grasses and forbs, many of which are exotic species established either by seeding or accidental

introduction. Because of the high water table and periodic inundation, most plant species are typical of those found in other nearby farmed wetlands.

Several barns, houses and outbuildings are located on the property. All are in extremely poor condition and are deteriorating rapidly. One barn may be of historical significance, at least architecturally, since it is constructed of hand-hewn beams and wooden pegs. This barn will be retained and the rest will be removed for public safety and habitat restoration purposes.

The first phase of wetland restoration work will create over 11 acres of wetland by fill removal and will improve wetland habitat on about 120 acres. The raising of the existing gravelled entry road and creation of a small parking area will provide access for public use.

A management plan for guiding future habitat improvement work, livestock grazing and public use is being prepared in cooperation with a local advisory group representing Humboldt County, the City of Eureka, environmental organizations, hunters and ranching interests. This plan will provide for a variety of uses commensurate with the primary purpose of restoring, enhancing and managing wetlands for the benefit of dependent wildlife resources.

This proposed enhancement plan is similar to the Ocean Ranch enhancement plan that the Commission recently approved (1-87-09 and 1-88-119). Both the Ocean Ranch and Fay Slough enhancement plans involve fill removal, wetland enhancement, increased public access, and continued livestock grazing.

3. Project Description:

Enhancement of the Fay Slough Wildlife Area consists of the removal of over 11 acres of fill and the enhancement of 120 acres of existing wetlands. The fill removal will be accomplished by removing buildings, concrete pads and earth fills. The enhancement will be accomplished by reconstructing interior road fills which will form low dikes. Additionally, approximately 550 feet of new dike will be constructed. This new dike will be constructed from some of the surplus earth fill, and will result in the loss of .13 acres of wetland. Together, these dikes will hold run-off water in two shallow ponds totaling about 120 acres.

As the applicant has indicated that there may be some off-site disposal of a small percentage of the fill material, the project is conditioned to require approval of this site if it is in the Coastal Zone.

4. Wetland Resources:

Section 30233 of the Coastal Act states:

> (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less

environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(7) Restoration purposes.

(8c) In addition to the other provisions of this section, diking, filling or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.

The main purpose of this project is to enhance the wetlands at the Wildlife Area. Like the approved Ocean Ranch enhancement plan, the Department believes that the most important aspect of management for the wildlife area is water control, in terms of both quality and quantity. The present winter flooding of the lowlands provides fresh and brackish water marsh which is vital habitat for waterfowl and other water-associated birds. Salt marsh is also provided by Fay Slough. It is the applicant's intent to maintain the wetland characteristics of the area and enhance their value by better control of run-off water.

Section 30233 of the Coastal Act allows fill in a wetland only under very specified circumstances, only if there are no other feasible less environmentally damaging alternatives, and where feasible mitigation measures have been provided. The project calls for the filling of .13 acres of wetland. The purpose of the fill is to provide increased wetland habitat, by installing a levee which will provide increased ability to regulate water levels. The applicant is providing on-site mitigation by enhancing 120 acres of wetland which will increase the habitat value of that area. Therefore, as proposed, the project is consistent with Section 30233 of the Coastal Act as the fill will provide restoration in a wetland area and will increase habitat values and the functional capacity well in excess of the habitat to be lost.

Another enhancement aspect of the project is the removal of 11.57 acres of fill. This work will be carried out by Humboldt County. In an agreement with the Department, this fill removal will serve as mitigation for future County projects. The ratio of credit for any future such credits will be determined at such time a project is reviewed and approved. As the mitigation will occur in the near future, and as there are no proposed County projects at this time, there will not be the usual lag time between project construction impacts and mitigation implementation.

Therefore, at this time, removal of 11.57 acres of fill will greatly enhance the functional capacity of the wetland. The amount of habitat enhancement that actually takes place until the impacts from future County projects occur can not be assessed at this time. However, to aid in this review, the Commission is requiring a monitoring program to assess the success of effectiveness of the project. This evaluation will occur on a case by case basis and will be subject to the environmental and regulatory review of all affected agencies. Therefore, while recognizing that this fill removal will

act as a mitigation for future projects, the Commission finds it consistent with Section 30233 of the Coastal Act. as the fill removal will restore the wetland values of the site.

5. Future Management Plan:

As noted above, the Department is currently preparing a management plan for the entire Wildlife Area.

Anticipated uses of the area are as follows:

Livestock Grazing

A livestock grazing plan will be developed with the assistance of the University of California Agricultural Extension Service. Grazing will be used as a management tool to control vegetative growth. Grazing will be permitted at specified times and locations to reduce conflicts with other uses. Grazing will not be permitted in areas where adverse impacts to wildlife habitat would result.

Hunting

Under Section 550, Title 14, CCR, waterfowl hunting will be permitted in designated areas during the regular waterfowl hunting season. No other hunting will be permitted. Designated open hunting areas will be located well away from public roads, houses, barns or other sites where public safety would be jeopardized.

Fishing

The only fishing opportunities available are in Fay Slough which forms the southern border of the Wildlife Area. Fishing will be permitted from the Fay Slough Levee.

Bird watching/Nature Study

Except for areas which may be closed for management purposes, public safety or resource protection, the Wildlife Area will be open for nature study and bird watching with few restrictions.

Other Recreational Use

Permitted uses will be limited to those that are related to natural resources.

Scientific and Educational Use

Scientific studies by competent investigators will be encouraged as long as such studies do not adversely impact biological resources. Educational use by schools and conservation organizations will also be encouraged.

Visitor Facilities

Vehicle access will be provided from Highway 101 to a small parking area located at the old ranch headquarters. Improvements on this road and the construction of the parking area are a part of this project currently before the Commission. Eventually, a nature/hiking trail will probably be constructed. Vehicle access will not be permitted on other service roads. No ORV use will be permitted.

Although the management emphasis for the area will be directed towards wetland restoration and enhancement, it is the Department's intention to produce optimum conditions for a wide variety of native plant and animal species. Future management activities will be designed to achieve these objectives. The Department believes that this cooperative wetland restoration project with Humboldt County will provide substantial public benefits over time.

As this management plan may involve some changes of use on the property, it is appropriate to require submittal of the plan to the Commission for their review. The project is conditioned accordingly.

6. CEQA/LCP:

A Negative Declaration has been adopted for the project. As detailed above, the project will not create any significant adverse impacts within the meaning of the California Environmental Quality Act.

The Humboldt County LCP contains policies which encourage enhancement of wetland areas. As proposed, the project is consistent with those County policies.

4604P

ATTACHMENT

Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

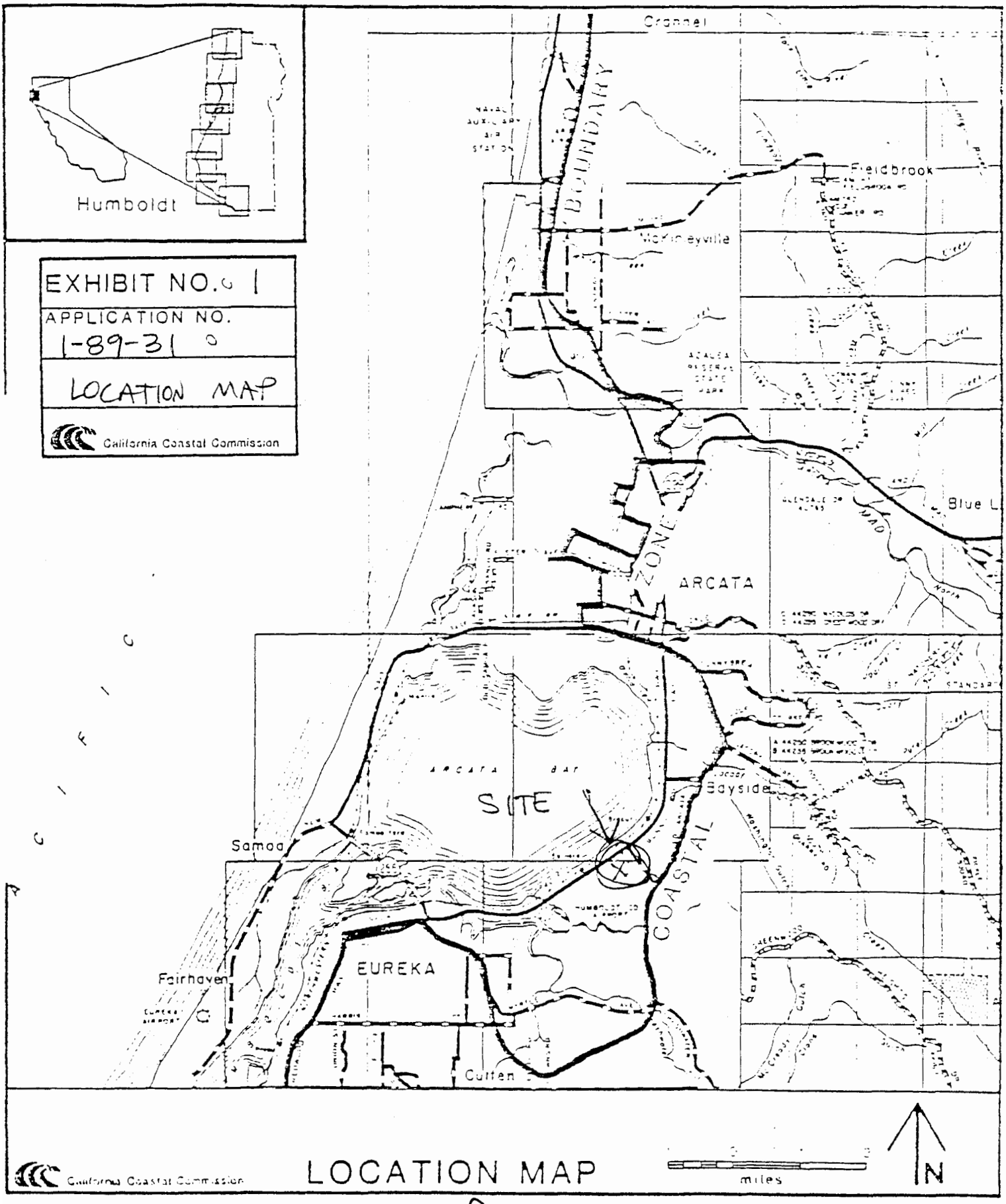
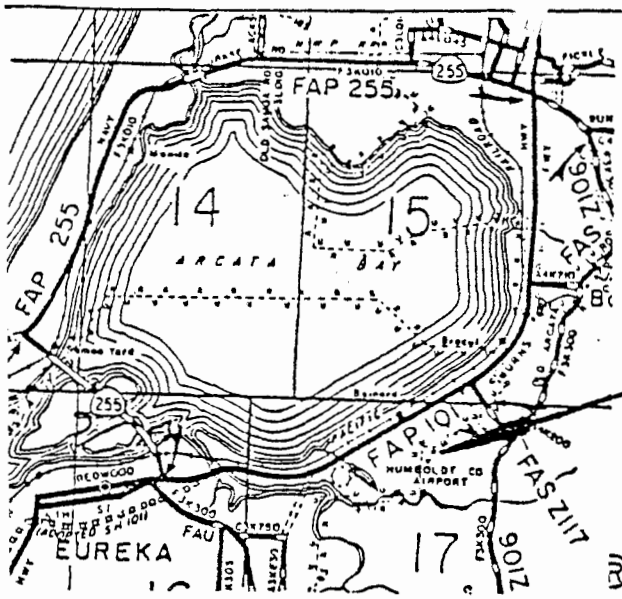

Humboldt
EXHIBIT NO. 1
APPLICATION NO.
1-89-31
LOCATION MAP
California Coastal Commission
Crannel
Fieldbrook
McKinleyville
BOUNDARY
ZONE
ARCATA
Blue L
SITE
Bayside
Samoa
COASTAL
EUREKA
Fairhaven
Cutten
LOCATION MAP
miles
N

EXHIBIT NO. 2
APPLICATION NO. 1-89-31
Site plan
California Coastal Commission



PROJECT LOCATION

6 - Foster

Proposed shallow (6" - 12") winter ponds

1 - Harold Hunt

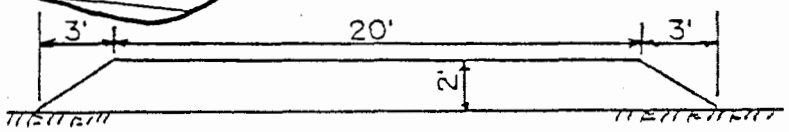
4 - Johnson Ranches

TO BE REMOVED

DIKE TO BE CONSTRUCTEI OR EXISTING TO REMAIN

LEGEND

Access Road

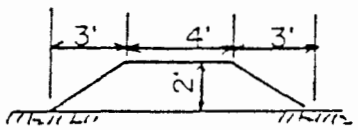


ACCESS ROAD A-B

3 - Humboldt County

SCALE: 1 "=700'

- Harvey Harper



TYPICAL DIKE SECTION

PURPOSE: Wetland Enhancement

DATUM: Mean Sea Level

ADJACENT PROPERTY OWNERS:

See attached sheet

10 of 10

IN: Eureka

AT: Mid-City Ranch

COUNTY OF Humboldt STATE California

CALIFORNIA COASTAL COMMISSION
NORTH COAST AREA
631 HOWARD STREET, 4TH FLOOR
SAN FRANCISCO, CA 94105
(415) 543-8555

Filed: April 17, 1990
49th Day: Waived
180th Day: October 16, 1990
Staff: Linda Locklin
Staff Report: July 27, 1990
Hearing Date: August 9, 1990
As Revised at hearing: August 9, 1990

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 1-90-38

APPLICANT: HUMBOLDT COUNTY, DEPT. OF PUBLIC WORKS

PROJECT LOCATION: Elk River Road, east of 101, South of the City of Eureka, in Humboldt County

PROJECT DESCRIPTION: Widen Elk River Road for a length of approximately one mile, replace Swain Slough Bridge

LOCAL APPROVALS RECEIVED: Humboldt Bay Harbor Recreation and Conservation District, U.S. Coast Guard, U.S. Corps of Engineers pending, CDFG 1601, RWQCB

SUBSTANTIVE FILE DOCUMENTS:

STAFF NOTE:

This item was previously scheduled for the May 1990 agenda. It was continued at staff's request, to allow additional opportunity to review the mitigation plan.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions. See attached

EXHIBIT NO. 20
APPLICATION NO.
1-86-200-A4 - HUMBOLDT CO. PUBLIC WORKS DEPT.
REVISED FINDINGS STAFF REPORT FOR CDP NO. 1-90-38 (HUMBOLDT CO.)
(1 of 5)

III. Special Conditions.

Revised Mitigation Plans

1. PRIOR TO TRANSMITTAL OF THE PERMIT, permittee shall submit revised plans that provide for a mitigation ratio of at least 1:1 to the Executive Director for his review and approval. This revised plan shall incorporate the standards of the submitted plan, regarding: timing, success standards, monitoring and remedial action.

2. USCOE

U.S. ARMY CORPS OF ENGINEERS PERMIT: PRIOR TO COMMENCEMENT OF CONSTRUCTION, permittee shall provide to the Executive Director a copy of a U.S. Army Corps of Engineers permit, or letter of permission, or evidence that no Corps permit is necessary.

IV. Findings and Declarations.

1. Project Description

The applicant proposes to widen Elk River Road, by 16 feet to provide four feet of paved and four feet of gravelled shoulders on each side. Currently, Elk River Road has shoulders of less than 2 ft. in width and the edge of the road drops into a gully. The reason for the widening is to improve traffic safety; 10% of the traffic consists of loaded logging trucks and the road is experiencing one of the highest accident rates in the County.

The project also includes the replacement of the deteriorating Swain Slough bridge. The new structure will widen the bridge from 26 to 40 ft.

The project will result in the loss of 39,050 sq.ft. of wetland; a wetland mitigation plan was included as a part of the project which will mitigate both on and off-site at a ratio of 1:1.

2. Wetland Resources

Section 30233 of the Coastal Act states, in part:

> (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
>
> . . .

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

. . .

The County completed an environmental assessment for the proposed project. Included in this evaluation was a discussion of alternatives, such as no project, repaving the existing roadway, and re-routing traffic to an alternative roadway. The County concluded that the proposed project would solve the safety problems while creating the least environmental impact. A wetland mitigation plan is included as a part of the project.

The project will result in the filling of 39,050 sq.ft. of seasonal wetlands. The applicant proposes to mitigate 7,360 sq.ft. on site, at the time construction occurs. The wetland loss in this area consists of drainage ditches adjacent to the existing roadway. The mitigation plan for this area will consist of creating new drainage ditches, adjacent to the new roadway. As the new ditch will be designed in the same manner as the existing ditch, this portion of the mitigation will provide on-site in-kind replacement. The remaining 31,690 sq.ft. which consists of seasonal wetlands located within flat pastures will be mitigated in-kind off-site at Fay Slough Wildlife Area, owned and managed by the California Department of Fish and Game. Enhancement of this wildlife area was approved by the Commission, 1-89-31, which approved the removal of 11 acres of historic wetland fill, and a total enhancement of 350 acres of wetland.

The Department of Fish and Game intends to restore the wildlife area in 1990, and has signed a co-operative agreement with the County to allow for wetland mitigation credits. Therefore, the majority of the wetland mitigation will be completed prior to the construction of the road and bridge as allowed by this permit.

As a part of the mitigation plan, the County will annually monitor the area for five years, and reports will be submitted to the Commission. Success standards of vegetation cover over 60% have been incorporated as well as a contingency plan for an alternative mitigation program should the standards not be met within three years. Therefore, as submitted, the mitigation plan contains the essential elements considered by the Commission to constitute an acceptable mitigation plan.

Since the 1800's over 90% of California's historic wetlands have been lost due to dredging and filling. Humboldt Bay's wetlands have been reduced from 27,000 acres to 11,525 acres, a loss of over 40%. Additionally, a review of all the Commission approved development projects (from 1973 to 1989) in the Humboldt Bay area reveal that there will be a net loss of 23.81 acres of wetlands if all those projects are constructed as approved. While the Commission recognizes that mitigation ratios of 1:1 have in the past been found

acceptable, such as the County's widening of Myrtle Avenue (1-86-200-A, 80-P-69) and the Humboldt Creamery (1-88-23), and that in another bridge replacement project, Humboldt County (1-87-88) a ratio of 1.5:1 was found acceptable, there is also Commission precedent for much greater mitigation ratios. For example, Caltrans was granted approval to widen the highway adjacent to Sweetwater Marsh (6-83-319) and was required to mitigate the loss of tidal marsh at a ratio of over 5:1. The Commission is also aware of the uncertainty with mitigation projects; they often do not meet the projected restoration goals and thus result in a net loss of wetland habitat value. The Commission also notes in response to the overwhelming loss of this critical resource, that the Legislature is currently considering bills that would require wetland mitigation ratios from 2:1 to 4:1. However, in this case, the commission notes that the restoration will occur two years in advance of the project impacts, will occur at a site that is an approved enhancement area sponsored by the California Dept. of Fish and Game, and that there has been general success in mitigating the loss of seasonal wetlands. Therefore, as submitted, the project is consistent with Section 30233 of the Coastal Act. The proposal constitutes an incidental public service which is necessary to correct a public safety hazard, is the least environmental damaging alternative, as there are no alternative roads in this area that can adequately serve the residential and commercial traffic, and mitigation measures have been incorporated which minimize the environmental effects.

3. CEQA/LCP

As discussed above, alternatives to the project were reviewed and the chosen one will increase public safety and has been mitigated to the maximum extent feasible. Therefore, the project is consistent with the California Environmental Quality Act.

The Humboldt County LCP allows the expansion of public roads, as long as it is the least environmentally damaging alternative. As submitted, the project is consistent with the policies of the Humboldt County LCP.

The Commission notes that a neighbor, see Exhibit 2, is concerned over the possible impacts of the road construction, that is more truck traffic and noise may adversely affect the nearby neighbor's house. While these impacts may occur, the Commission finds that the project will improve vehicular safety and that neighborhood concerns are more appropriately addressed at the local level (which they were during the County's CEQA Review period).

LL/mem
5716P

ATTACHMENT A

Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.