

COMMISSIONERS RECORD 47  
FRANKLIN COUNTY  
Commissioners' Proceeding for June 28, 2006

The Honorable Board of Franklin County Commissioners met on the above date. Present for the meeting were Neva J. Corkrum, Chairman; Bob Koch, Chair Pro Tem; and Frank H. Brock, Member; Fred Bowen, County Administrator; and Mary Withers, Clerk to the Board.

**OFFICE BUSINESS**

Secretary Patricia Shults met with the Board. Present in audience: Jean Smith, Tiffany Coffland, Merle Booker, Ryan Verhulp, Boyd Gray, Rawley Taylor and Richard Mann.

**Consent Agenda**

**Motion** - Mr. Brock: I move for approval of the consent agenda as follows:

1. Approval of **joint Resolution 2006-329** in the matter of the request for signature from the Chairman of the Boards of Benton and Franklin County Commissioners on the County Program Agreement, Aggression Replacement Training, #0663-96535, between the Juvenile Justice Center and Washington State Department of Social & Health Services, Division of Children and Family Services, for a term commencing June 1, 2006 and terminating on June 30, 2007. (Exhibit 10)
2. Approval of **Resolution 2006-330** rescinding Franklin County Resolution Number 2005-007 and approving hours of operation for Franklin County offices located at the Courthouse and Public Safety Building to be open to the public from 8:30 am to 5:00 pm, Monday through Friday, effective July 1, 2006.
3. Approval of **Resolution 2006-331** authorizing acceptance of the estimate received from Brothers Tree for removal and cleanup of trees near the Benton-Franklin Health District office, to be paid from the Courthouse Budget, #001-000-200, line item 518.30.48.0004 (Repairs & Maintenance – Museum/Health Department) in an amount not to exceed \$1,800.
4. Approval to send a letter of response to Craig Cole, Safety Officer, Franklin County Fire District 3, regarding ambulance fee charged by the City of Pasco. (Exhibit 1)

Second by Mr. Koch. 3:0 vote in favor.

Vouchers/Warrants

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**Motion** – Mr. Koch: I move for approval of payment of warrants as listed: Courthouse Renovation Fund warrants 416 through 419 for \$22,162.00; Current Expense warrants 51593 through 51605 for \$31,497.43; Franklin County RV Facility warrant 244 for \$940.80; Grand Old 4<sup>th</sup> warrants 96 through 113 for \$100,110.44; Auditor O&M warrant 372 for \$835.47; Current Expense warrants 51606 through 51621 for \$29,287.43; Current Expense warrants 51622 through 51623 for \$1,789.35; Veteran's Assistance warrants 1292 through 1293 for \$552.26; and Current Expense warrants 51624 through 51629 for \$20,464.64; for a total of \$207,639.82. Second by Mr. Brock. (Exhibit 2)

Minutes

**Motion** – Mr. Koch: I move for approval of Commissioners minutes for June 21, 2006. Second by Mr. Brock. 3:0 vote in favor.

**SALE OF COUNTY LAND**

Chief Civil Deputy Prosecutor Ryan Verhulp met with the Board.

**Executive Session** at 9:12 a.m. regarding potential litigation expected to last about 10 minutes. Mr. Verhulp said the session is to discuss legalities and risks associated with the county's land sale which was conducted yesterday. (Jean Smith, Boyd Gray, Rawley Taylor and Richard Mann left the meeting. Present: Commissioners Corkrum, Koch and Brock; County Administrator Fred Bowen; Chief Civil Deputy Prosecutor Ryan Verhulp, Treasurer Tiffany Coffland, Auctioneer Merle Booker, Real Estate Broker Ted Potter, and Clerk to the Board Mary Withers.

**Open Session** at 9:27 a.m.

**PLANNING AND DEVELOPMENT DEPARTMENT**

Planning Director Jerrod MacPherson and Assistant Director Greg Wendt met with the Board.

**Public Hearing:** Short Plat SP 2006-14 for applicant Rawley Taylor to short plat approximately 75.42 acres into two lots. Lot #1 is approximately 70.35 acres in size and Lot #2 is approximately 5.07 acres in size. The property is zoned Agricultural Production (AP-20).

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Public Hearing convened at 9:30 a.m. Present: Commissioners Corkrum, Koch and Brock; Planning Director Jerrod MacPherson; Assistant Director Greg Wendt; and Clerk to the Board Mary Withers. Present in audience: Rawley Taylor, Richard Mann, Jean Smith and Boyd Gray.

Mr. Wendt reviewed the Action Summary (Exhibit 3).

Mr. MacPherson showed a copy of the 2004 aerial photograph with the zoning information. He reviewed the conditions of approval.

Mrs. Corkrum asked three times if anyone in the audience would like to speak in opposition. There was no response.

Mrs. Corkrum asked if anyone in the audience would like to speak in favor. Rawley Taylor spoke in favor. Richard Mann spoke in favor. Mrs. Corkrum asked two more times. No one else spoke. The hearing was closed to public participation.

**Motion** – Mr. Koch: I move we grant preliminary approval of Short Plat 2006-14 subject to the seven findings of fact and seven conditions of approval. This is Resolution 2006-332. Second by Mr. Brock. 3:0 vote in favor.

Final Approval Short Plat 2006-12, Russ Triebwasser

**Motion** – Mr. Koch: I move for approval of Resolution 2006-333, final approval for Short Plat 2006-12. Second by Mr. Brock. 3:0 vote in favor.

**WSU EXTENSION**

WSU Extension Agent Jean Smith met with the Board.

Update

There are over 1100 kids and 287 adult leaders in the animal science program. The leaders average about 10 hours a month of service time. Much of the time is spent with horse projects.

The all-breed bull test is held at the WSU Prosser Research Station. Owners pay \$500 per bull to have information collected and reported on their bulls on the web site and on fact sheets that are sent to potential buyers. The Washington Cattlemen's Association receives 1% of the sale price of the bulls. Only the top 75% of the bulls are sold, based on gain index and adjusted year-end weight. Ms. Smith does all of the

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recordkeeping and weighs the bulls. There has been a tremendous change in genetic potential of bulls over the years. The current average daily gain is four pounds per day. The test has completed its 13<sup>th</sup> year. The ultrasound of carcass characteristics is important because the range between the grades is significant. The carcass characteristics are highly inheritable.

In the past we've done a type of multi-specie approach to quality assurance. The Washington Cattlemen's Association and Washington Cattle Feeders Association have approached us to develop a certified beef quality assurance program so they can show proof when they send cattle to packers that they are certified and BQA. It probably will include cattle identification in some way and will include age- and source-verified information, which is an important characteristic particularly for the export market, especially Japan.

**COUNTY ADMINISTRATOR**

County Administrator Fred Bowen met with the Board. Present in audience:  
Boyd Gray.

Real Estate Auction

The Board reviewed a chart of the results of yesterday's real estate auction (Exhibit 4).

**Recessed** at 9:57 a.m.

**Reconvened** at 10:07 a.m.

**PROSECUTOR**

Chief Civil Deputy Prosecutor Ryan Verhulp met with the Board. Present in audience: Merle Booker, Ted Potter and Boyd Gray.

Property Sale

Mr. Verhulp submitted a real estate purchase agreement for Tract 1. He noted that section 3 will need to be initialed by a member of the Board. The Board determined that the chairman will be the one who does the initialing. Mrs. Corkrum initialed the section.

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**Motion** – Mr. Brock: I move for approval of the Purchase and Sale Agreement between Franklin County and WAM Enterprises, Inc., and/or Assigns. Second by Mr. Koch. 3:0 vote in favor. This is Resolution 2006-335.

Mrs. Corkrum initialed the agreement for Tract 2.

**Motion** – Mr. Brock: I move for approval of the Real Estate Purchase and Sale Agreement between Franklin County as seller and CMV Holding, LLC, and/or Assigns. This is Resolution 2006-336. Second by Mr. Koch. 3:0 vote in favor.

Mrs. Corkrum initialed the next agreement.

**Motion** – Mr. Brock: I move for approval of the Real Estate Purchase and Sale Agreement between Franklin County as seller and Kelvin Properties, LLC, or Assigns. This is Resolution 2006-337. Second by Mr. Koch. 3:0 vote in favor.

Tracts 5 and 6

**Motion** – Mr. Brock: I move for approval of the Real Estate Purchase and Sale Agreement between Franklin County as seller and Ronald E. and Tracy L. Asmus. This is Resolution 2006-338. Second by Mr. Koch. 3:0 vote in favor.

Tract 3

**Motion** – Mr. Brock: I move for approval of Real Estate Purchase and Sale Agreement between Franklin County as seller and Mohinder Sohal and Guudiesh Sohal. This is Resolution 2006-339. Second by Mr. Koch. 3:0 vote in favor.

Mr. Verhulp asked the Board for approval to turn the earnest money checks over to Western Real Estate.

**Motion** – Mr. Brock: I move for approval for Ryan Verhulp to turn over earnest money checks to the broker for Western Real Estate. Second by Mr. Koch. 3:0 vote in favor.

Mr. Verhulp gave Ted Potter the earnest money checks.

**COUNTY ENGINEER**

County Engineer Tim Fife met with the Board.

R-170 Slide Preliminary Geotechnical Recommendations

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Mr. Fife gave the Board a memo. He also gave the Board the preliminary report completed by Shannon & Wilson, Inc., which includes geotechnical recommendations regarding the landslide over Road 170. (Exhibit 4)

Mr. Koch asked what the cost would be. Mr. Fife said the cost is projected at \$2 million to \$3 million. Mr. Brock asked what is the best recommendation? Mr. Fife said history has shown that mountains come down. If costs are equivalent, the recommendation would be to go around the slide area. Mr. Brock's concern is that a slide may happen again. Mr. Fife said nothing can prevent it from happening. Mrs. Corkrum asked if Federal funding would be available. Mr. Fife indicated no funding is committed. He is pursuing options through the Washington State Department of Transportation (WSDOT) local programs and the County Road Administrative Board (CRAB).

Glade North Road

Mr. Fife asked for approval to close Glade North Road at Fir Hill during construction for a minimum of two weeks. The Board reviewed the engineer's estimates for partial closure or full closure and a map showing the detour route (Exhibit 5). The cost savings is projected at \$67,000. If the road is closed, flaggers will not be needed. It will be an inconvenience but overall it will be less of an inconvenience, as cars won't have to be piloted through the area.

**Motion** – Mr. Brock: I move for approval of CRP 555 - Glade North at Fir Hill Traffic Control as specified. Second by Mr. Koch. 3:0 vote in favor. (Exhibit 6)

**TRAC**

TRAC Manger Troy Woody met with the Board.

Petty Cash Resolution for Grand Old 4th

**Motion** - Mr. Brock: I move approval of Resolution 2006-334 as specified. Second by Mr. Koch. 3:0 vote in favor.

The resolution creates a line item entitled "Temporary Special Event Change Funds" within the 2006 Miscellaneous TRAC Operations Fund #404-000-001 for the Grand Old 4<sup>th</sup> event.

Budgets

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Mr. Woody discussed the TRAC revenue and expenditures.

Miscellaneous

Some carpet at TRAC will be replaced in July.

**Executive Session** at 10:41 am. regarding contract negotiations expected to last 15 minutes.

**Open Session** at 10:57 a.m.

Boyd Gray and John Olivas joined the audience.

**DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS), COMMUNITY SERVICES OFFICE (CSO)**

John Olivas, Administrator, Region 2, Kennewick CSO, DSHS, and Adolfo deLeon, Administrator, Pasco CSO, DSHS, met with the Board.

Mr. Olivas and Mr. deLeon told the Board about some changes that are being initiated in the welfare offices.

Both offices provide the same services to Benton and Franklin County residents such as cash assistance, medical assistance, and food stamps. Legislation has recently been passed that will sanction or take away 100% of a family's cash grants if they are not participating in employment, looking for work, doing training, receiving education, obtaining a GED, or doing other activities that count towards becoming self-sufficient. The amount used to be 40%. Before sanctioning occurs, we are required to do some intensive social service case management intervention with families. We are to coordinate with all service providers in the counties to help people towards self-sufficiency.

We have two distinct clients that we work with, ones that get cash assistance and ones that don't. Clients have to participate in the Welfare-to-Work program which is called WorkSource in the State of Washington. The Employment Security Department, Columbia Basin College, technical colleges, and the Department of Community, Trade and Economic Development (CTED) are major partners. Clients are required to take literacy testing for math, English, and reading. CTED provides funding for the local area in a community jobs program. We subsidize employment costs. CTED subcontracts

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with Goodwill Industries. Goodwill Industries owns the WorkSource building. All clients in Franklin County have to go to WorkSource to get these services. One requirement for those receiving cash assistance is they have to be engaged full-time, meaning 30-plus hours per week.

Those people not receiving cash assistance but receiving medical coupons and/or food stamps don't have to be engaged in WorkSource activities. Historically in the past, people on medical coupons and/or food stamps were required to do a review to continue with eligibility, every three, six, or 12 months depending on the program. The Federal government in the last few years has allowed us to do phone eligibility verifications. We have not done very much of that in our local offices or throughout the state. We want to move toward 100% phone interviews so we don't have to have clients come into our offices. There is a lot of technology now that allows us to look at child support, criminal histories, Social Security information, etc., so workers can look at that while they're talking to a person on the phone. The error rate of someone trying to commit fraud is very, very low.

We want to take care of all of the cash assistance clients from both Franklin and Benton Counties at the Kennewick office because WorkSource is located within 2-1/2 blocks of the office. It is about seven miles for Pasco residents. All of the DSHS sister agencies are within a 2-1/2 mile radius from the Kennewick office. Mrs. Corkrum said that was her objection because many people who are needy do not have transportation. Mr. Olivas gave the Board a map showing locations of various agencies.

Mr. deLeon responded to a question from the Board. He said it is not exact figures but the CSO serves about 65% Benton County and 35% Franklin County residents. Right now, the case load for the Kennewick office for food assistance is about 6500 cases. The case load in Franklin County is 3200 to 3400 cases.

The governor has directed intensive case management social services intervention. The CSO plans to have the telephone interviews for both Benton and Franklin Counties processed and handled out of the Pasco CSO office so we would reduce the need for those who walk into the office. Clients don't have to come to our offices as much. The

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regional area covers from Ellensburg to Yakima to Walla Walla. The Pasco office will take on that workload for the entire region. That means we would be reallocating the existing FTEs from other offices (Yakima, Ellensburg, Walla Walla and Sunnyside) and housing them to work out of the Pasco office. It would be telephone work. It would be about 12 to 15 employees. That is a short-term goal for the next three months. There will be some attrition and some employees are willing to move. Mr. deLeon explained how some of the changes would occur. He said once we receive a phone call from a needy client without transportation, we can always do a telephone interview even at the initial application. Mr. Olivas gave the Board a copy of the information regarding "hardship" definitions. One option is to do the initial application on-line by computer. Another option is by telephone. The CSO uses the 2-1-1 telephone service.

Mr. deLeon said we're able to do this by telephone but right now both offices are stretched thin. With the change, the Kennewick office will be able to concentrate on clients coming in and also on the WorkSource requirements. The Pasco office will be able to concentrate on telephone and information coming in by mail. By consolidating our resources, we will be able to do it.

Mr. Brock said John Olivas is also chairman of Franklin County's Homeless Committee administered through the Community Action Council (CAC).

Mr. Olivas said we're working to improve access into the WorkSource area.

Mr. deLeon said this change is a short-term goal in the next three months. In the longer term, within two years, the CSO is considering handling the regional mail work and also providing that from the Pasco office, with an additional 15 to 20 FTEs.

Mr. Olivas said we're asking if it's something you would support. Mrs. Corkrum said she just wants to make sure Franklin County is served. Mr. Olivas and Mr. deLeon said the residents will be better served.

**AUDITOR**

Auditor Zona Lenhart met with the Board. Present in audience: Sheriff Richard Lathim, Undersheriff Kevin Carle, Jail Captain Rick Long, and Boyd Gray.

Vote Here system

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Ms. Lenhart told the Board that the Vote Here system is being installed. Voters will be able to dial into the web site and find out exactly where their ballot is in the process. One decision that will be made is whether ballots will have bar codes placed on them. She does not think the bar codes will be put on the ballots at this time, even though there is no way even once the ballots are separated from the envelope to see how a voter voted. The Vote Here system is paid for by the state using Help America Vote Act (HAVA) funds.

Commissioner Districts

There has been a lot of interest in the race for Commissioner District 3. The commissioner district boundaries will need to be adjusted because there are 11,003 voters in District 3 and 4500 or less people each in Districts 1 and 2. The law says the districts need to be equal in size by population.

Mr. Brock said he thought that's what we went to the state Supreme Court over. Mrs. Corkrum said it was based on the 2000 census but there has been an explosion of population since that time. Ms. Lenhart said the law doesn't allow for the district boundaries to be out of balance. Mr. Brock said we can't make an adjustment until after this election. Mrs. Lenhart said that is right. It would have had to be done by the end of June.

Courthouse

Ms. Lenhart gave the Board a plaque that has a picture of the courthouse. It was purchased at a yard sale. It is unclear when the picture was taken.

Ms. Lenhart gave the Board the Guest Books that were signed during the Courthouse rededication week to be placed in the time capsule. The Guest Books were started on the second day of the open house so there is no record of who attended on the first day.

**COUNTY ADMINISTRATOR**

County Administrator Fred Bowen met with the Board.

Jail Expansion

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Jail Captain Rick Long, Sheriff Richard Lathim and Undersheriff Kevin Carle met with the Board. Present in audience: Boyd Gray.

Sheriff Lathim gave the Board some figures regarding jail overcrowding (Exhibit 7). Mr. Brock asked what is the legal capacity? Sheriff Lathim said the jail was built for 102 prisoners. The state used to have a board that oversaw the jails. At one time we sought approval to go to 121. Since then we have double-bunked and gone to 154. There has been no addition to the jail since it was originally built for 102 prisoners. He said it is based on number of beds. Each bed is counted. He said there is a potential for a problem with that many people. Sheriff Lathim explained some of the jail standards regarding overcrowding. Prisoners cannot sleep on the floor more than 72 hours.

Mrs. Corkrum asked about electronic monitoring. Sheriff Lathim said we're doing as much of that as we can. Sheriff Lathim said we have worked on having prisoners who are serving longer than 30 days moved to other counties. Many prisoners have charges pending elsewhere.

Mrs. Corkrum asked if the City of Pasco can be asked to take some overflow prisoners elsewhere. Sheriff Lathim said on the surface it appears feasible but the bottom line is not too many people can be moved elsewhere.

Mr. Brock asked do you have recommendations? Sheriff Lathim said if the Work Release area can be opened, it would give 28 beds. The female prisoners would be moved to where the current Work Release area is located. Four correctional officers would need to be hired. Mr. Bowen said the plumbing and electrical is being worked on now. Sheriff Lathim said it would be a temporary solution.

Mr. Bowen said a couple years ago when we talked about Work Release, the revenue received from Work Release would have supported the four positions. The discussion was we would add them as the bodies filled the Work Release. Is that still the case? Sheriff Lathim said the problem he runs into is he would love to have people on home monitoring but only nine or ten qualify. Work Release is running in the 20s.

Mr. Bowen asked are you going to use that more in the line of a prison? Sheriff Lathim said no, we need to move Work Release out to the new Work Release building.

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That will give us 28 beds. Sheriff Lathim said we can't do it with the staff we have. We would have to have four more people costing about \$67,000 in 2006 for five months. The additional cost for 2007 has not been computed.

Sheriff Lathim said one change in the last few years is that the City of Pasco has been running about 47% of our prison population. In 2006, the City of Pasco's portion of the prisoner population is 52%. They have usually had about 57% of the bookings. We're estimating they will owe us somewhere between \$125,000 and \$150,000 in addition to the basic contract because their percentage is higher. The daily cost will go down but their percentage is up.

Mr. Brock said we have a liability issue here and we have to meet it without question.

Mr. Bowen said he will talk to the carpenter to see when the work could be completed on the Work Release facility. The work could be expedited by hiring crews to come in and do the work.

Sheriff Lathim said for every dollar the county puts out, you increase your revenue by 50 cents. He said the City of Pasco's fees for 2007 should increase by \$80,000.

There is one female jailer position open right now. Sheriff Lathim said we have to have a minimum of nine or 10 female jailers.

Mr. Bowen will find out some budget information. He would like to know the county's overall budget status prior to the Board making a decision.

Mr. Bowen asked if the Sheriff can prepare new budgets. Sheriff Lathim explained how the contract with the City of Pasco works relating to 2005. We have to use the last fully completed year to compute the figures.

Mr. Brock said he feels we need to move forward to provide relief on this housing. We either have to not take the prisoners in or we have to finish the Work Release area posthaste. Mrs. Corkrum asked if city prisoners are misdemeanants rather than felons, why can't some be on home monitoring? Sheriff Lathim said Judge Roach puts Franklin County prisoners on home monitoring. The City of Pasco court bypasses from court to home monitoring.

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Mrs. Corkrum asked because we're so overcrowded, can't we go to the city judge and say we have this problem? Captain Long said the majority of the people in jail are under charges in three different courts. Mrs. Corkrum talked about releasing misdemeanants from jail.

Mrs. Corkrum said she doesn't know how having four more officers is going to eliminate overcrowding.

Mrs. Corkrum said the initial idea behind having Work Release fully implemented was to bring in more revenue. Sheriff Lathim said we're taking our current Work Release program which is limited by space and moving it to the remodeled area, from 26 beds to 30 beds. That lets us take the female prisoners out of one pod and put them where Work Release is now. We're just creating 28 new beds. For \$67,000 you would have 28 new beds. The original plan a few years ago was to hire four new jailers to be totally assigned to Work Release. We need four people but there will be certain hours with some overlap where they can help out in the jail. They will not be working solely in Work Release but we have to have that many in order to be able to run that facility.

Mr. Koch asked if Pasco is required to move their prisoners around or is it up to us to move them around once they come into the jail? Sheriff Lathim said they're our responsibility. If they are arrested on a felony, they are our prisoner. We can't say you can't bring them in here. He told the Board some of what happens when a person is arrested on a felony.

**Motion** – Mr. Brock: I'd like to make a motion that we go for consensus to give these folks some direction on this. I think we're debating an issue that we've debated and it's not going to change anything, they've still got the overcrowding. I think we've got to move forward on giving them some direction.

Mrs. Corkrum said are we talking about tomorrow or August? Mr. Brock said Mr. Bowen is saying the first of September. Mr. Bowen said several years ago Sheriff Lathim said if we have Work Release, we will need these additional people. Mr. Bowen said Sheriff Lathim is not asking for a change. He's asking if the Work Release center be

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opened that he have the four additional people that he asked for a few years ago that were approved.

Sheriff Lathim explained more about Work Release.

Mr. Brock asked can we give them consensus to move forward on the hiring process? Mrs. Corkrum said I guess so. Mr. Koch said it sounds like we need to but we need to know when the Work Release center will be finished. Mrs. Corkrum would like budget figures. She said, sure, I think the consensus here is to go ahead and hire but I don't think it's going to solve the problem. Mr. Bowen said it's not going to solve the problem. It will open up 28 beds.

Mrs. Corkrum wants some kind of a plan for the future. What are we going to do? Do we need to start planning on going out for a bond, building another building or adding onto this one? We need some help with the political parties of our partners in the City of Pasco. She doesn't think this is a Franklin County problem alone.

Mr. Bowen said the county tried to pass the criminal justice tax. This issue has come up because of growth in the community.

Mrs. Corkrum asked do we have the land to expand the jail? Mr. Bowen said it could be put where the portable courtroom is now. He explained further.

Mrs. Corkrum said she wants a plan.

Sheriff Lathim asked are you saying go ahead and start the process? Mr. Brock said we have to address the issue. Sheriff Lathim said this isn't a solution but it is a temporary solution.

Mr. Bowen asked if the Board's consensus is to begin the hiring process. The Board said yes.

#### Parking Assignments

Mr. Bowen will trade parking spaces with District Court Judge Jerry Roach.

There was extensive discussion about assigned parking spaces. Sheriff Lathim feels dispatchers should be able to park close to the building. Mr. Bowen said the plan is to have judges park where Sheriff's deputies currently park patrol vehicles. The patrol vehicles will then be parked in the sheriff's area known as the bullpen, with Sheriff's

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Department employees parking in the regular employee parking lot. Sheriff Lathim described the reasons for needing employee parking in the bullpen.

It was determined that the deputies will park in the bullpen. The regular five-day-a-week, day-time employees will park in the regular employee parking lot. Four parking spaces will be assigned for Dispatch employees in the parking lot on the south side of the Courthouse.

**Privacy Screens in Men's Restroom**

The Board gave approval to purchase privacy screens for the men's downstairs restroom.

**Deputy's Bathroom – Showers**

The Board gave approval to replace the shower in the deputy's bathroom at a cost of \$405.

**VOUCHERS/WARRANTS**

**Motion** – Mr. Koch: I move for the expenditure of \$15,000 for TRAC. Second by Mr. Brock . 3:0 vote in favor. (Exhibit 8)

**Motion** – Mr. Koch: I move for Salary Clearing payroll for \$565,796.66 as follows: Warrants 40560 through 40666 for \$175,960.57; warrants 40667 through 40677 for \$178,833.47; and Direct Deposit for \$211,202.62. The cover sheet also includes the following amounts:

Emergency Management payroll, warrants 8051 through 8061 for \$2845.96; warrants 8062 through 8070 for \$2607.55; and Direct Deposit for \$4213.54; for a total amount of \$9667.05; and

Irrigation payroll, warrants 11822 through 11837 for \$7872.49; and warrants 11838 through 11845 for \$4478.06; for a total amount of \$12,350.55.

Second by Mr. Brock. 3:0 vote in favor. (Exhibit 9)

**Adjourned** at 12:26 p.m.

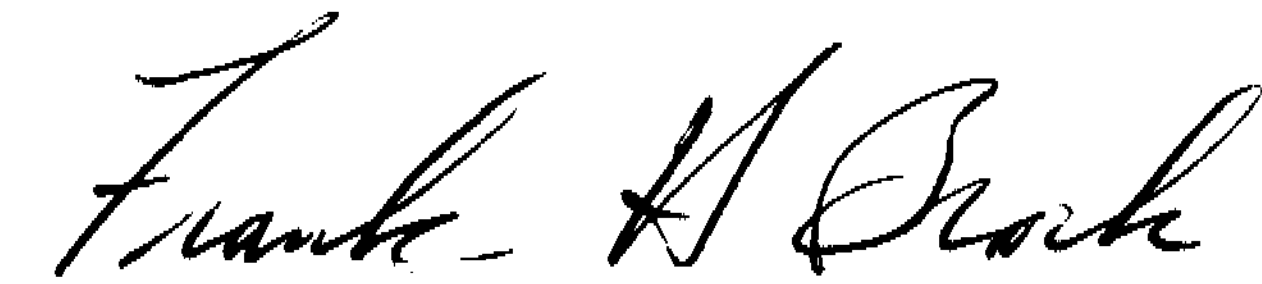
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There being no further business, the Franklin County Board of Commissioners meeting was adjourned until July 3, 2006.

BOARD OF COUNTY COMMISSIONERS  
FRANKLIN COUNTY, WASHINGTON

  
Chairman

  
Chairman Pro Tem

  
Member

Attest:

  
Clerk to the Board

Approved and signed July 5, 2006.

June 28, 2006

Neva J. Corkrum  
District 1

Robert E. Koch  
District 2

Frank H. Brock  
District 3



Fred H. Bowen  
County Administrator

Rosie H. Rumsey  
Human Resources Director

Patricia L. Shults  
Executive Secretary

Board of County Commissioners  
**FRANKLIN COUNTY**

June 28, 2006

Craig Cole, Safety Officer  
Franklin County Fire District 3  
2108 Road 84  
Pasco, WA 99301

**Re: Ambulance Fee Charged by the City of Pasco**

Dear Craig:

This letter is in response to your letter dated May 24, 2006, requesting assistance with the fee charged by the City of Pasco for providing ambulance service to residents in the unincorporated areas of Franklin County.

We too would hope the City would be agreeable in reducing said fees. Our suggestion to reduce the number of calls the volunteers respond to is to provide service when specifically required. Do not send volunteer backup on every call, as this is a waste of manpower and funds.

We appreciate the steps taken to live within your budget and acknowledge the difficulty you face in doing so.

Sincerely,

BOARD OF COUNTY COMMISSIONERS  
FRANKLIN COUNTY, WASHINGTON

Neva J. Corkrum, Chair

Robert E. Koch, Chair Pro Tem

Frank H. Brock, Member

cc: City Manager Gary Crutchfield  
Mayor Joyce Olson  
File/LB

EXHIBIT 2  
*Franklin County Auditor*

June 28, 2006

1016 North 4th Avenue  
Pasco, WA 99301

ZONA LENHART, Auditor  
509-545-3840 • Fax: (509) 545-2142  
www.co.franklin.wa.us

P.O. Box 1451  
Pasco, WA 99301

June 28, 2006

Franklin County Commissioners:

Vouchers audited and certified by the auditing officer by RCW 42.24.080, expense reimbursement claims certified by RCW 42.24.090, have been recorded on a listing, which has been sent to the board members.

Action: As of this date, June 28, 2006,

Move that the following warrants be approved for payment:

FUND	WARRANT	AMOUNT
Expenditures	Range	Issued
Courthouse Renovation Fund	416-419	\$22,162.00
Current Expense	51593-51605	\$31,497.43
FC RV Facility	244	\$940.80
Grand Old 4 <sup>th</sup>	96-113	\$100,110.44
Auditor O&M	372	\$835.47
Current Expense	51606-51621	\$29,287.43
Current Expense	51622-51623	\$1,789.35
Veteran's Assistance	1292-1293	\$552.26
Current Expense	51624-51629	\$20,464.64

In the amount of \$207,639.82. The motion was seconded by  
And passed by a vote of 3 to 0

Accounting  
545-3505

Elections  
545-3538

Recording  
545-3536

Licensing  
545-3533

**FRANKLIN COUNTY ACTION SUMMARY**

<b>Agenda Item:</b> Rawley Taylor	TYPE OF ACTION NEEDED	Consent Agenda	
<b>Meeting Date:</b> June 28, 2006	Execute Contract	Public Hearing	<b>X</b>
<b>Subject:</b> SP-2006-14 to short plat 75.42 acres into two (2) lots.	Pass Resolution	<b>X</b>	1st Discussion
	Pass Ordinance		2nd Discussion
<b>Prepared By:</b> Greg Wendt	Pass Motion	<b>X</b>	Other: <i><b>Preliminary Approval</b></i>
<b>Reviewed By:</b> Jerrod MacPherson	Other		

**BACKGROUND INFORMATION:**

The applicant has applied to short plat approximately 75.42 acres into two (2) lots. As proposed, Lot #1 is approximately 70.35 acres in size, and Lot #2 is approximately 5.07 acres in size. The property is zoned Agricultural Production (AP-20). The subject property is described below:

The property is located south of Lincoln Road, west of Highway 17, east of Astoria Road, and north of R-170. Parcel Number 121-590-029.

As submitted, the application is in compliance with the standards specified in the County Subdivision Ordinance #3-2000.

According to Chapter 8 of the County Subdivision Ordinance, the Board of County Commissioners shall, after conferring with appropriate officials and agencies, make and enter findings into the record and determine whether the short plat be approved with conditions, returned to the applicant for modification or denied.

**FINDINGS OF FACT:** (Chapter 8, Section 8.10 Subdivision Ordinance):

- 1). The proposed lots **do conform** to the Comprehensive Plan and Zoning Requirements;
- 2). The proposed short subdivision **does contribute** to the orderly development and land use patterns in the area;
- 3). The proposed lots **are served** with adequate road system/means of access, fire protection, drainage, water supplies and means of sanitary sewage disposal;
- 4). Land **is not required** to be dedicated for public right-of-way;
- 5). Utility and irrigation easements **are required** to serve the proposed lots within the short plat and/or adjacent properties;

Action Summary  
SP-2006-14  
Page 2

- 6). The public use and interest will be served by permitting the proposed divisions of land;
- 7). Subdivision improvements **are not required** for this application and **therefore are not** required to be guaranteed by one of the methods described in the Subdivision Ordinance.

**GENERAL COMMENTS:**

1. **GIS:** No comments.
2. **Fire District #1:** No comments.

**CONDITIONS OF APPROVAL:**

1. **Benton Franklin Health Department:** The applicant shall meet and comply with the requirements of the Benton-Franklin Health Department (see letter dated June 20, 2006 for specifics).
2. **Big Bend REA:** The applicant shall comply with the Big Bend REA standards.
3. **USBR:** The applicant shall meet and comply with the requirements of the United States Bureau of Reclamation (see letter dated June 19, 2006 for specific requirements).
4. **South Columbia Basin Irrigation District:** RCW 58.17.310 requires an irrigation easement from the farm unit's point of delivery to each new lot when a farm unit is short platted. A minimum 10 ft wide irrigation easement (separate from other easements) needs to be extended from Lot 2 to the unit's legal point of delivery which is located approximately 360 feet of the western farm unit boundary.
5. **Fire Code Official:** The following separation standards shall be required for all new structures on each lot and or parcel unless there is a fire hydrant located within 500 feet of the proposed building/structures.
  - a. Front yard setback: Twenty-five (25) feet from a road right-of way and/or a dedicated roadway/easement, and/or fifty-five (55) feet from the centerline of such road right-of way and/or roadway/easement which ever is greater.
  - b. Rear yard setback: Twenty-five (25) feet.
  - c. Side yard setback: Twenty (20) feet.
  - d. Separation between Building/Structures: Fifteen (15) feet. The structure separation could be adjusted with an approved firewall construction.

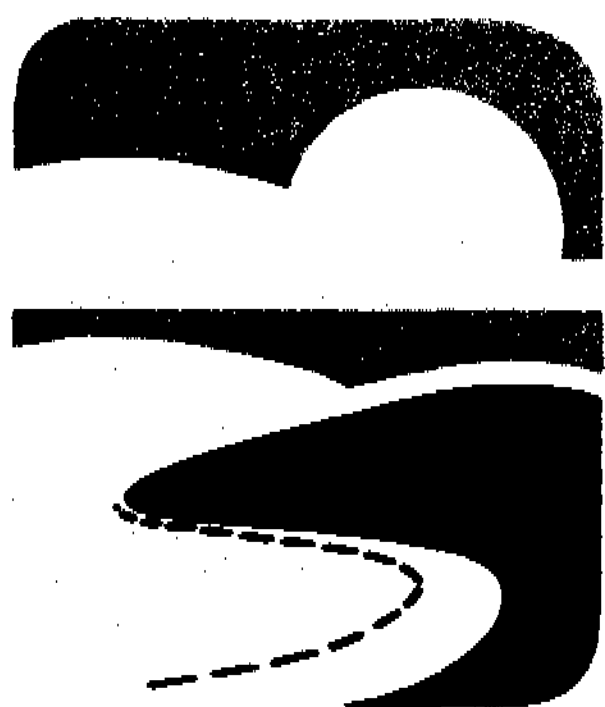
***\*\* These separation standards and requirements shall be placed on the face of the plat.***

Action Summary  
SP-2006-14  
Page 3

6. **Franklin County Public Works:** a) In accordance with Franklin County's Subdivision Ordinance section 6.3(2), the final plat shall be accompanied with closure notes showing the calculations and method of balancing used for error of closure. **b) Add the following note to the plat:** Approach permits are required for any new approaches onto County roads.
7. **Franklin County Planning Department:**
  - a. Short Plat approval shall be effective for one (1) year (per Co. Subdivision Ordinance, Section 8.14). If final recording has not occurred within the one-year time period, reapplication shall occur.
  - c. Lots 1 and 2 are subject to a Park Dedication Fee (\$50.00 per new lot/expected new dwelling unit). This fee may be paid prior to recording the final subdivision plat or at the time when a building permit for a new home is to be issued for Lots 1 and 2. If the applicant chooses to not pay the fee prior to recording, **then a statement shall be placed on the plat stating that Park Dedication Fees apply to Lots 1 and 2. This shall be paid prior to building permit issuance for new homes on Lots 1 or 2.**
  - d. Signature Blocks shall be provided for the following: County Engineer, County Auditor, South Columbia Basin Irrigation District, Big Bend REA, United States Bureau of Reclamation, Benton-Franklin Health Department, County Treasurer, Chairman-Board of County Commissioners.
  - e. The Final Short Plat shall be developed in accordance with the County Subdivision Ordinance. See Chapter 8 of Ordinance 03-2000 for specifications.

## MOTION

Grant preliminary approval of Short Plat 2006-14, subject to the seven (7) findings of fact and seven (7) conditions of approval.




# FRANKLIN COUNTY

## PUBLIC WORKS DEPARTMENT

**Tim Fife, P.E.,** Public Works Director/County Engineer  
**Guy F. Walters,** Assistant Public Works Director

DATE: June 28, 2006  
TF-06-033

TO: Franklin County Commissioners

FROM: Tim Fife, P.E.  
Public Works Director/County Engineer 

SUBJECT: R170 Slide Preliminary Geotechnical Recommendations

Attached please find copies of the preliminary report completed by Shannon & Wilson, Inc. This report is based upon initial site visits, interviews with local property owners, review of prior reports, and professional expertise's. Their recommendation is that this section of roadway should not be reopened without addressing the slide triggering mechanism i.e., water ponding in the ravine and saturation of previously deposited slide material.

The report includes alternatives for re-opening, both in place and re-routing, along with rough cost estimates for comparison purposes for each option on page 11. These costs are incomplete because options 1a costs are not defined and drainage system required for reconstructing in place were not part of this initial review. The drainage system most likely would be very expensive and require a lot of Right-of-Way.

Based upon this initial report, I have directed HDR, under Task Order #2, to complete the cost estimates and ultimately recommend the preferred option based upon cost, both initial and long term maintenance costs, and other factors. Task Order #2 is scheduled to be completed by July 22, 2006. At that time, we should have all the information available to us to make a rational decision on which direction the County should pursue.

I should remind you, however, at this time we do not have any funding committed to solving this road closure problem. I have pursued some options through WSDOT Local Programs and the County Road Administration Board. However, we need to decide how we will solve this issue and how much it is going to cost before we can go any further.



# Memo

To: Tim Fife, PE, Franklin County Public Works Director/County Engineer

From: Michael A. Murray, PE

Project: County Road 170- Thornton Landslide

CC:

Date: June 19, 2006

Job No: 42411

Document1

## RE: Preliminary On-site Investigations

Enclosed please find four (4) copies of Shannon & Wilson's (S&W) report of the on-site geotechnical investigations performed at the recent County Road 170 Landslide Area (Thornton Landslide Site). The findings/recommendations contained in the Report present the professional opinion of S&W's assigned geotechnical engineering specialists based upon site visits, interviews with some of the area landowners and representatives of the South Columbia Basin Irrigation District, and a brief review of information provided by the County related to previously slides in the area only. The report is not based upon any recent in-depth geotechnical investigations (borings, material testing and etc.) conducted by S&W at or near the site.

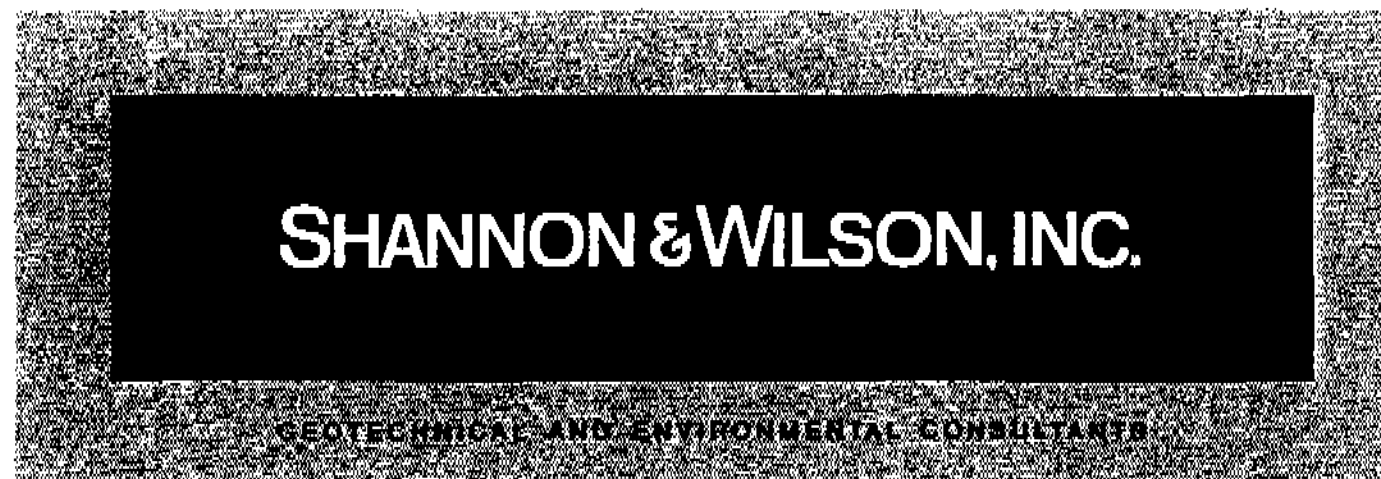
As will be noted in reviewing the Report, the section of County Road 170 buried by the slide should not be re-opened until a solution is determined to eliminate the slide triggering mechanism i.e., water ponding in the ravine and saturating previously deposited material. Re-opening the road section without eliminating the ground water above the slide area and/or eliminating the water accumulations within the ravine would not be an effective short-term solution.

The Report does suggest a number of alternatives for re-opening County Road 170 with some rough order-of-magnitude costs for comparison purposes only, referred to as Alternatives 1b through 3, but not all costs are included. Determining all costs for finding a solution for the collection of the water, and conveying and depositing of the water were beyond the scope of the on-site geotechnical investigations and are not included. Also, the costs for right of way, the right to enter and perform work on private property, and potential liability issues are not included. Further, since the report is limited to on-site geotechnical investigations at the landside only, it does not include any costs for a permanent off-site detour.

Instead of expending additional monies on further geotechnical investigations at or in the vicinity of the landslide area at this time, it is HDR's recommendation that the County proceed with an evaluation of alternatives for permanently abandoning this section of county road (Alternative 1a discussed briefly in report). The costs for re-opening County Road 170 with some additional refinement, including a consideration of the pros and cons for each re-opening alternative, can then be compared to the costs, pros and cons for permanently abandoning this section of the existing roadway. Information currently available to the County, supplemented with conceptual evaluations of potential routes, should be adequate to prepare a meaningful decision package/report for consideration by the Board of County Commissioners.

Please advise if you wish HDR Engineering proceed with an evaluation of the alternatives on behalf of the County. HDR is prepared to proceed immediately with the evaluation. A proposed scope and fee for performing this work has been prepared and submitted to your staff for the County's consideration.

June 14, 2006



*At Shannon & Wilson, our mission is to be a progressive, well-managed professional consulting firm in the fields of engineering and applied earth sciences. Our goal is to perform our services with the highest degree of professionalism with due consideration to the best interests of the public, our clients, and our employees.*

Submitted To:  
Mr. Michael Murray, P.E.  
HDR Engineering, Inc.  
2805 Saint Andrews Loop, Suite A  
Pasco, Washington 99301-6121

By:  
Shannon & Wilson, Inc.  
400 N 34<sup>th</sup> Street, Suite 100  
Seattle, Washington 98103

22-1-02375-001



ALASKA  
COLORADO  
FLORIDA  
MISSOURI  
OREGON  
WASHINGTON

June 14, 2006

Mr. Michael Murray, P.E.  
HDR Engineering, Inc.  
2805 Saint Andrews Loop, Suite A  
Pasco, WA 99301-6121

**RE: GEOTECHNICAL RECOMMENDATIONS FOR MAY 13, 2006, LANDSLIDE,  
COUNTY ROAD 170, FRANKLIN COUNTY, WASHINGTON**

Dear Mr. Murray:

This letter report presents our observations, conclusions, and recommendations related to the landslide that buried County Road 170 between Klamath and Sheffield Roads southwest of Basin City in Franklin County, Washington. We understand the landslide occurred on the evening of May 13, 2006. Our services were provided under subcontract to HDR, subconsultant agreement dated May 30, 2006, and in general accordance with our May 19, 2006, proposal.

#### **INTRODUCTION AND SITE DESCRIPTION**

The site is approximately 3 miles southwest of Basin City, Washington, and 25 miles north of Pasco, Washington, on Road 170. The site location is indicated in the vicinity map in Figure 1. The landslide buried approximately 1,400 feet of Road 170 with as much as 35 to 50 feet of soil and debris. Slide material extends southwest into a field to about 700 feet beyond the road. The slide covers about 38 acres and comprises 1,500,000 to 3,000,000 cubic yards of material. In addition to burying the road, the landslide destroyed several grain silos, buried an irrigation pivot, and filled a South Columbia Irrigation District canal, cutting off water to downstream irrigation systems (Fife, 2006). No injuries were reported. Aerial photos of the landslide are presented in photos 1 through 3. Photos 4 and 5 show the landslide headscarp.

The slope in which the May 13, 2006, landslide occurred faces southeast and generally parallels Road 170 on its northwest side for approximately 3 miles, from Sagehill Road to Klamath Road. Based on historical records and our observations, this slope is prone to landslides. Landslides that affected Road 170 previously occurred at this site in 1969 and 1983 (Fife, 2006). Those landslides originated in the ravine at the north end of the present landslide, traveled out of the

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June 14, 2006  
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thickness zone of cobble and gravel is exposed below the topsoil layer in the upper approximately 20 to 30 feet of the headscarp (Photos 4 and 6).

- ▶ Landslide material ranges from loose silt and fine sand to large blocks that preserve soil layering and structure (Photos 5 and 7).
- ▶ The northern lobe of material in the landslide toe appears to have been relatively wet when deposited. Material on the surface of this lobe near the toe is more broken up and less blocky than material closer to the scarp and along the toe farther south. The northern lobe of landslide debris also traveled much farther than the rest of the debris, as indicated in Photos 1 through 3, an indication that material in this lobe was likely wetter than material in other parts of the landslide.
- ▶ Vertical relief of the landslide ground surface is highly variable, from a few feet to 10's of feet. Grabens and closed depressions occur below the headscarp and within the landslide limits.
- ▶ Water flowing from the ravine northwest of the landslide has been impounded by debris and in depressions on the landslide surface. Based on our observations, some of this water infiltrates the soil and reappears on the landslide surface downslope and northwest of the roadway alignment. During our May 25, 2006, site visit, some of the water that had reemerged on the landslide debris surface was flowing to the north and into the road ditch on the west side of Road 170.
- ▶ We observed cracks about ½ inch thick and 10 to 20 feet long in the ground surface approximately 10 to 20 feet behind the north limit of the headscarp.
- ▶ We observed no cracks in the ground surface in the field located northwest of the tree line that generally parallels the May 13, 2006, landslide headscarp.
- ▶ An approximately 6- to 8-foot-thick soil layer, approximately 100 feet below the top of the headscarp, appeared damp during our May 16 and 25, 2006, site visits. Photographs provided to us, taken on May 14, 2006, show seepage from the headscarp approximately 20 feet below this layer and about 50 to 100 feet south of the north end of the headscarp. We did not observe seepage from this second area during our May 25, 2006, site visit.
- ▶ We observed water discharging at more than 5 gallons per minute from a gravelly sand layer about 80 to 100 feet below the top of the northeast-facing, 1983 landslide headscarp, about 100 feet northwest of the north limit of the May 13, 2006, landslide headscarp (Photos 1 and 8).
- ▶ We observed cracks in the ground surface, older scarps, grabens, indications of seepage, and other landslides within the ravine north of the May 13, 2006, landslide and on slopes north and south of the site. Sag ponds and blocked drainage occur within the ravine north of the site.

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**CONCLUSIONS**

No one directly observed the landslide event. Based on our observations, the May 13, 2006, landslide likely initiated with mobilization of soils along its northern margin, including soils in the ravine mouth. Material in the ravine mouth and on flatter slopes adjacent to the stream discharge channel was likely (1) saturated and (2) consisted of previous landslide debris and loose material deposits eroded from the basin that cuts into the bluff at the north end of the landslide. This material flowed an estimated 700 feet east of Road 170, was deposited to depths of 8 to 20 feet (depth decreasing toward the landslide toe), and was still wet on its surface during our May 16, 2006, site visit. Failure of the northern end of the slide was likely followed by the main landslide mass failure, which extends south from the ravine. The material deposited in the main landslide mass is blocky and appears to have been drier than the material deposited in the northern debris lobe that pushed farthest out into the fields. Our interpretation of landslide material movement sequence is based on observation that drier, blocky material appears to have been deposited over the wetter material in northern portions of the landslide deposit. We do not know if the main landslide mass failure occurred on a pre-existing slide surface, i.e., a slide surface resulting from previous landslide movement.

The relatively large travel distance of landslide debris implies that the landslide occurred rapidly. Horizontal travel speed for blocky landslide material in the main landslide mass likely exceeded 10 miles per hour, and may have been significantly faster. Elevated groundwater levels and high water pressures are the most likely landslide triggers. Indications that water was and is present in the slope experiencing the landslide and in adjacent slopes is supported by (1) seepage in the May 13, 2006, landslide headscarp, (2) wet zones in and water flowing from the 1983 landslide headscarp, and (3) zones of green vegetation on otherwise arid slopes adjacent to the May 13, 2006, landslide debris. This water likely occurs primarily as a result of infiltration associated with the irrigation system.

Rainfall was not likely a contributor to the landslide occurrence, because no significant rainfall events occurred in the two months preceding the landslide.

The Pacific Northwest Seismograph Network, which documents earthquake occurrence in the Pacific Northwest, indicates that no earthquakes occurred in eastern Washington on either May 12 or 13, 2006. The seismograph network records earthquakes of magnitude 1.0 or greater. The largest magnitude earthquake in the northwest on May 13, 2006, was a magnitude 1.8 at

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**1b.** Construct a bypass road around the toe of the landslide mass, connecting to Road 170 near its intersection with Klamath and Sheffield roads, south and north of the site, respectively.

Abandoning the existing Road 170 alignment and re-routing traffic away from the landslide-susceptible areas could be a cost-effective means of reducing risk to road users. Implementing Alternative 1a and rerouting traffic to existing roads away from the 3 miles of Road 170 that traverse the landslide zone would provide the greatest risk reduction. Constructing a bypass around the landslide toe (Alternative 1b) that reconnects with Road 170 near Klamath and Sheffield Roads would reduce the risk of future landslide impacts between the south and north limits of the bypass. The greater the distance the roadway is removed from landslide-susceptible slopes, the less risk of future impacts to the road associated with landslides. Implementing Alternative 1b would not reduce risk of and future costs associated with landslides impacting portions of Road 170 north and south of the bypass and in areas where the bypass approaches and merges with the existing road.

Movement, local or larger scale instability, of the landslide debris could occur if no work or insufficient work is performed to grade the landslide to prevent ponding or reduce infiltration. The irrigation canal in and immediately north and south of the landslide mass should be breached or graded so that it does not fail by overtopping, delivering water to the landslide mass, or contributing to erosion of the landslide mass. Consideration should be given by affected parties to providing positive drainage across the landslide surface and from the ravine at its north end. Water and wind erosion could affect adjacent areas as well. Erosion and blowing dust could be reduced by establishing vegetation across the bare soils on the landslide surface.

**Alternative 2: Reconstruct Road 170 such that it ramps up and over the landslide debris, leaving most of the debris in place.**

The north and south segments of Road 170 could be reconnected by constructing a road over the landslide debris. Embankments on each end to ramp onto the landslide could be constructed with a combination of material derived from landslide debris and imported material. The road alignment could follow the existing road alignment by cutting ramps into the landslide debris (cut slopes may extend on to adjacent property), constructing an embankment with sloping sides (fill slopes may extend onto adjacent property), or constructing an embankment with retaining structures on one or both sides. Construction could potentially be simplified, less costly, and reduce risk of future landslide impacts to the roadway in the realigned area if the roadway

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method would not stop settlement. This method could also be implemented in conjunction with soil densification discussed in the previous paragraph.

If the roadway is constructed over the slide debris, measures to improve stability of the landslide mass should be implemented. These measures include, but may not be limited to, grading the landslide surface to (1) reduce infiltration, (2) prevent ponding of water in grabens and depressions both upslope and downslope of the reconstructed roadway, and (3) improve drainage and reduce infiltration and saturation of material deposited at the mouth of and east of the ravine. Grading to provide drainage should occur prior to or simultaneous with roadway grading. Ponds should be drained and drainage for the stream that discharges from the ravine should be established prior to roadway excavation.

The irrigation canal in and immediately north and south of the landslide mass should be breached or graded so that it does not fail by overtopping, delivering water to the landslide mass, or contributing to erosion of the landslide mass. Water and wind erosion could affect the roadway and adjacent areas. Erosion and blowing dust could be reduced by establishing vegetation across the bare soils on graded areas and the landslide surface.

Stability improvement measures, in addition to the grading presented for this alternative, may be necessary; see the Task 3 services discussion below.

**Alternative 3: Excavate the landslide debris and restore Road 170 vertical and horizontal alignment.**

Landslide debris could be excavated to reestablish the roadway at its pre-May 2006 grade and alignment. We do not have survey information, but estimate that 500,000 to 700,000 cubic yards of material would need to be excavated. This volume assumes a 1,400-foot-long cut with 3H:1V cut slopes, a 100-foot-high cut slope west of the road, a 20-foot-high cut east of the road, a 40-foot-deep cut at roadway centerline, and combined 60-foot-width of roadway and ditch at road elevation. Slopes may need to be flatter than 3H:1V in the loose landslide debris. Excavation volumes could increase significantly if (1) the cut slope height on the west side of the road is greater than 100 feet, (2) additional flattening or shaping is needed to improve stability of the mass that remains after excavation for the roadway, and/or (3) wet zones or seepage occur.

**SHANNON & WILSON, INC.**

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 HDR Engineering, Inc.  
 June 14, 2006  
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construction costs to assist Franklin County in evaluating the alternatives. Costs for engineering, design, plans, specifications, and construction management are not included.

Our opinion of the order-of-magnitude of construction costs for the alternatives is presented below.

Alternative	Description	Probable Construction Cost (\$M) <sup>1,2</sup>
1a	Abandon Road 170 at the site and improve roadways to which traffic is re-routed. <sup>3</sup>	?
1b	Construct 6,000-foot bypass around toe of the landslide. <sup>3</sup>	1.5 to 2
2	Construct road over landslide. <sup>4</sup>	0.4 to 1.0
3	Restore roadway alignment and grade. Excavated material disposed of on site.	2 to 4.5
3	Restore roadway alignment and grade. Excavated material disposed of off site.	4 to 8

<sup>1</sup> Construction costs do not include engineering fees.

<sup>2</sup> Costs for capturing and draining water from the ravine and transporting it to the SCBID wasteway are not included. These costs could be significant. Further study is required.

<sup>3</sup> Determining costs for this alternative is beyond our scope of services for this report.

<sup>4</sup> Low-end cost is for no densification of landslide soil and roadway without geosynthetic reinforcement. Expect higher than normal maintenance costs.

### **Task 2 and 3 Services**

The need for subsurface explorations depends on the course of action pursued by Franklin County. If the County chooses to abandon this section of Road 170, there would be no need for us to perform additional investigations, presented as Task 2 in our May 19, 2006, proposal. If the roadway vertical and horizontal alignments are restored, additional explorations may be warranted, depending on the contracting mechanism that the County chooses for debris removal and roadway reconstruction and their tolerance for uncertainty and changes during and following construction. Subsurface explorations could help identify the surface(s) on which sliding occurred and be used to evaluate stability of the re-shaped mass that remains after excavation and grading operations.

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development by adjacent property owners, or other actions, events, or unknown conditions that could cause slope instability. The site is located within an area and geologic unit that are susceptible to landslides.

The analyses, conclusions, and recommendations contained in this letter report are based on site conditions as they existed during our site visits. We assume that the soil conditions exposed in the landslide and adjacent areas are representative of the subsurface conditions below the area of instability.

Within the limitations of the scope, schedule, and budget, the analyses, conclusions, and recommendations presented in this letter report were prepared in accordance with generally accepted professional geotechnical engineering principles and practice in this area at the time this letter report was prepared. We make no other warranty, either express or implied.

In providing opinions of probable construction cost, HDR and Franklin County should understand that design has not been performed and that the design selected may include components not considered in the construction costs presented above. Furthermore, Shannon & Wilson has no control over the cost or availability of labor, equipment or materials, market conditions, or the Contractor's pricing method. Our opinions of probable construction costs are made on the basis of our professional judgment and experience, and for the Road 170 landslide, without the benefit of surveys, cross sections, or design documents. Shannon & Wilson makes no warranty, express or implied, that the actual construction costs for the ultimate design selected or Contractor bid or negotiated price for the Work will not vary from those presented.

Unanticipated soil conditions and variable groundwater conditions are commonly encountered and cannot be fully determined by merely observing exposures and results of past earth movement. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

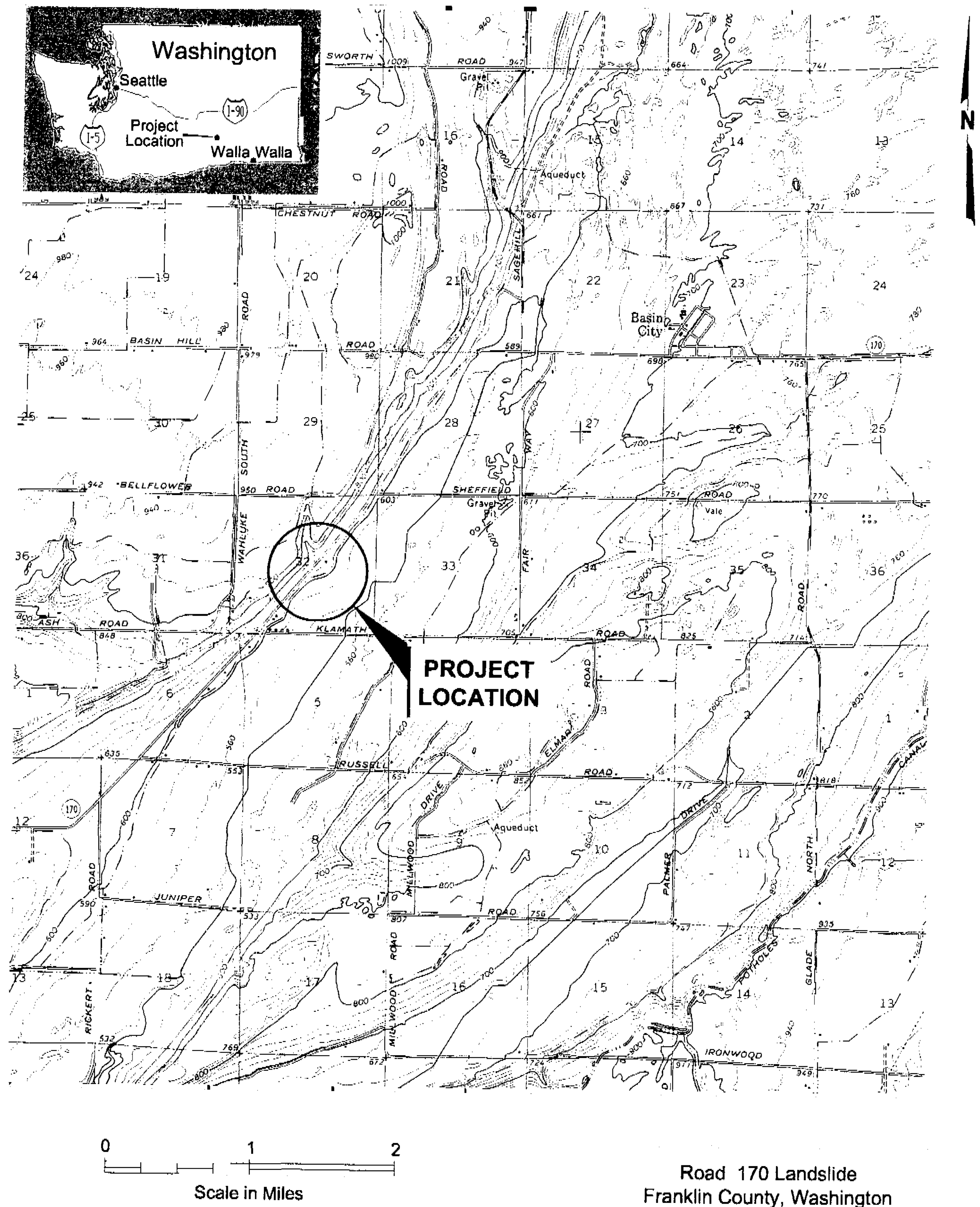
The scope of our services included no environmental assessment or evaluation regarding the presence or absence of hazardous or toxic materials in the soil, surface water, groundwater, or air at the subject site.

## SHANNON &amp; WILSON, INC.

Grolier, M.J. and Bingham, J.W., 1978, Geology of parts of Grant, Adams, and Franklin Counties, East-Central Washington: Washington State Department of Natural Resources Division of Geology and Earth Resources, Bulletin No. 71.

Pacific Northwest Seismograph Network, 2006, <http://www.ess.washington.edu>.

Schuster, R.L. and Hays, W.H., 1984, Irrigation-induced landslides in soft rocks and sediments along the Columbia River, South-Central Washington State, U.S.A., *in* Proceedings of IV International Symposium on Landslides, v. 1, p. 431-436.



June 2006

22-1-02375-001

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Geotechnical and Environmental Consultants

**FIG. 1**

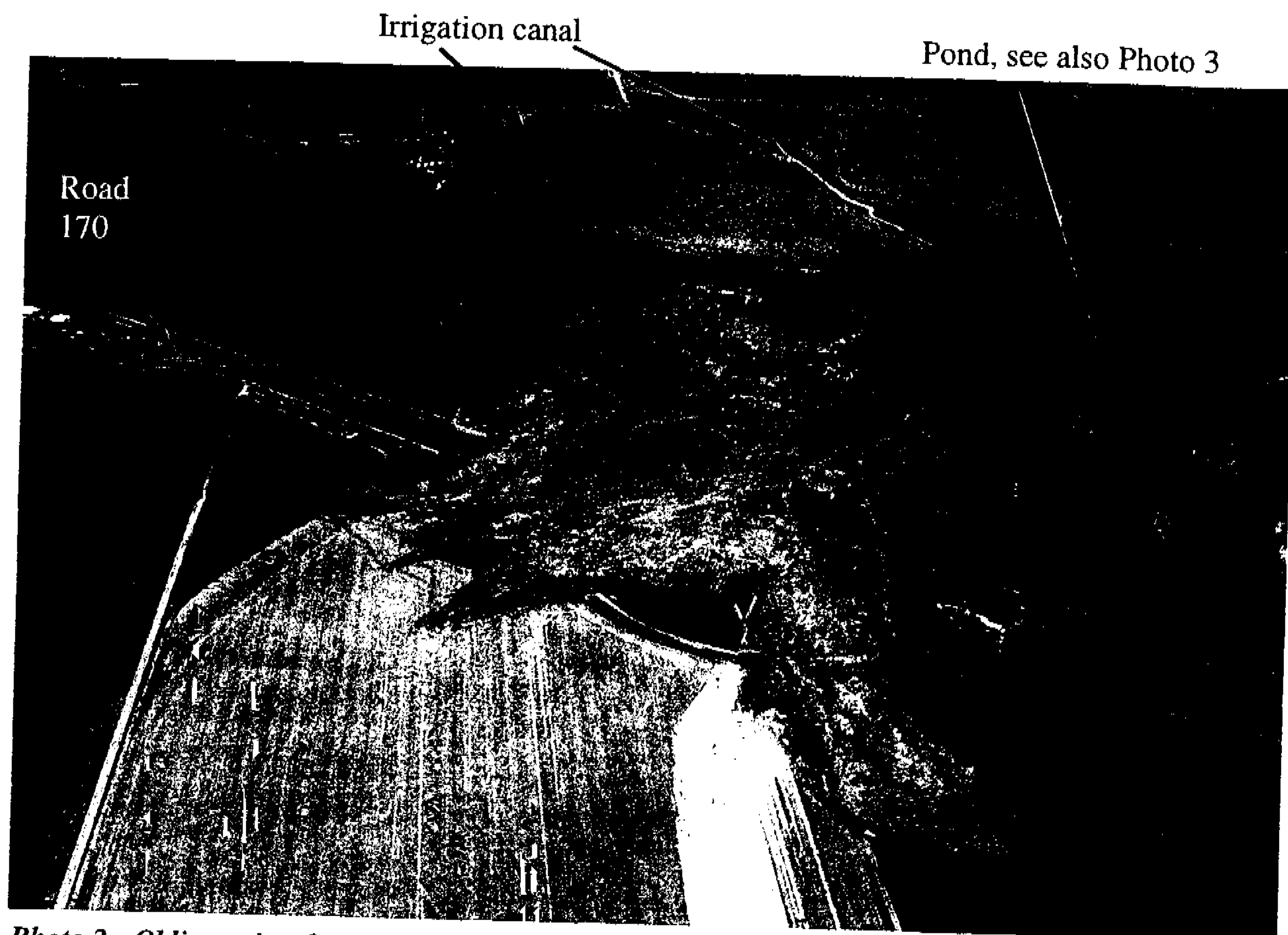
May 13, 2006

Landslide Headscarp

Seepage, see Photo 4

Seepage, see  
Photo 8Pond, see also  
Photo 3

*Photo 1: Aerial view of landslide (Photo courtesy of Franklin County).*

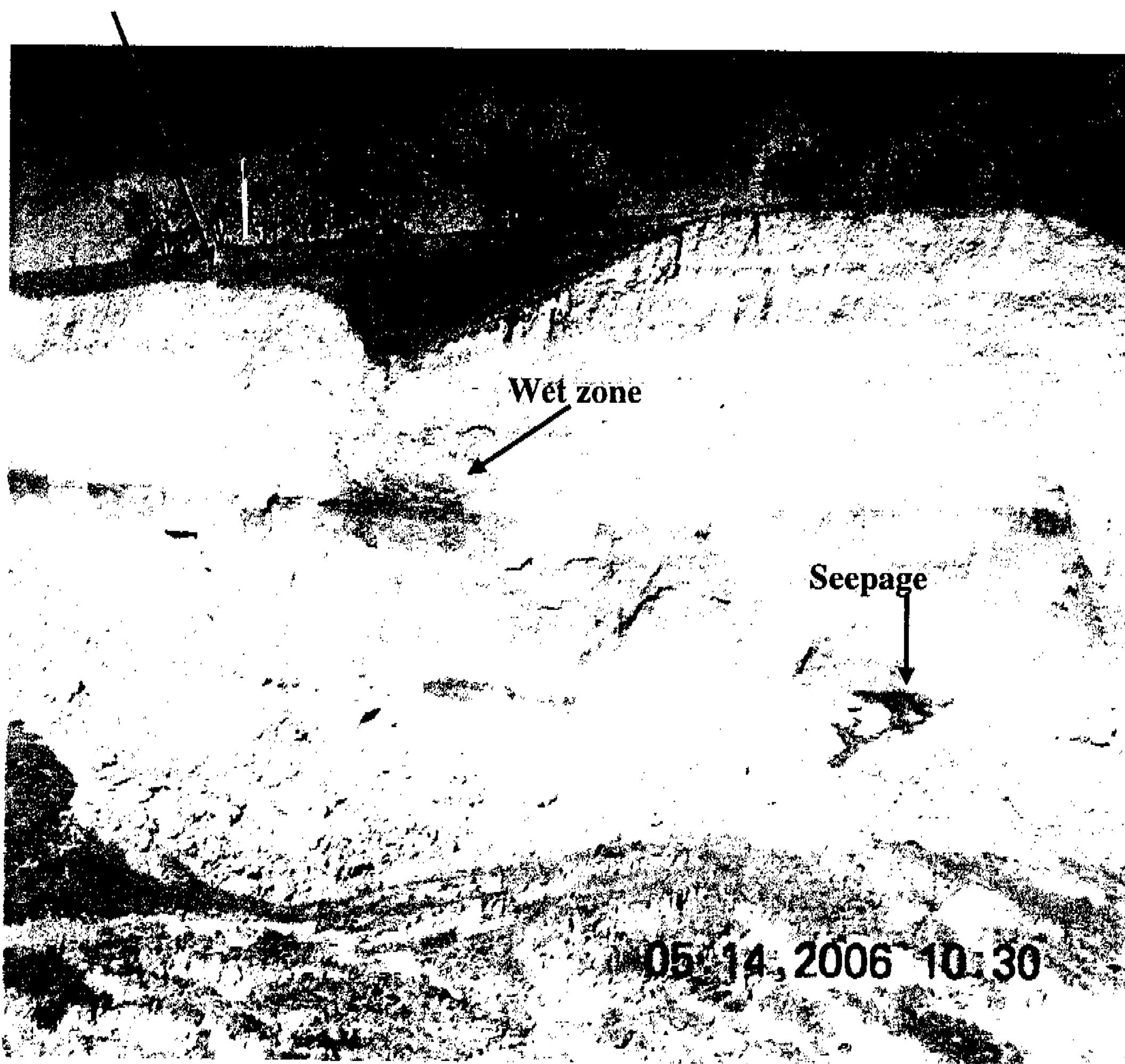


*Photo 2: Oblique view from northeast (Photo courtesy of Franklin County).*



*Photo 3: Oblique view from south (Photo courtesy of Franklin County).*

Cobble and gravel layer,  
See Photo 5



*Photo 4: Landslide headscarp.*



*Photo 5: Soil blocks on landslide surface, looking northwest.*



*Photo 6: Cobble and gravel upper layer below south end of headscarp overlying silt, clay, and sand layers.*



*Photo 7: Soil layering in block on surface of landslide mass.*



*Photo 8: Seepage from south end of 1983 headscarp, in ravine north of May 13, 2006, headscarp.*



**SHANNON & WILSON, INC.**  
Geotechnical and Environmental Consultants

Attachment to and part of Report 21-1-20375-001

Date: June 14, 2006  
To: Mr. Michael Murray, P.E.  
HDR Engineering, Inc.

## **IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT**

### **CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.**

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

### **THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.**

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

### **SUBSURFACE CONDITIONS CAN CHANGE.**

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

### **MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.**

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

**A REPORT'S CONCLUSIONS ARE PRELIMINARY.**

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

**THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.**

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

**BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.**

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

**READ RESPONSIBILITY CLAUSES CLOSELY.**

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the  
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland

**CRP 555 GLADE NORTH ROAD PHASE II**

**ENGINEERS ESTIMATE FOR CONSTRUCTION TRAFFIC CONTROL FOR PARTIAL DETOUR.  
CONTRACT IS ESTIMATED TO TAKE 60 DAYS WITH ONE-WAY TRAFFIC CONTROL**

**DETOUR 20 DAYS**

ASSUME A NINE HOUR WORK DAY FOR TRAFFIC CONTROL

1 FLAGGER @ \$34.25 per hour.

$9 \times 20 = 180 \text{ hours} \times \$34.25 = \$6,165$

**ONE-WAY TRAFFIC 40 DAYS**

ASSUME A NINE HOUR WORK DAY FOR TRAFFIC CONTROL

1 FLAGGER @\$34.25 per hour.

$9 \times 40 = 360 \text{ hours} \times \$34.25 = \$12,330$

1 FLAGGER @\$34.25 per hour.

$9 \times 40 = 360 \text{ hours} \times \$34.25 = \$12,330$

1 TRAFFIC CONTROL SUPERVISOR @\$34.25 per hour.

$9 \times 40 = 360 \text{ hours} \times \$34.25 = \$12,330$

1 CONTRACTOR PILOTED TRAFFIC CONTROL @ \$45.63 per hour.

$9 \times 40 = 360 \text{ hours} \times \$45.63 = \$16,427$

**PROJECT TEMPORY TRAFFIC CONTROL ESTIMATE = \$7065**

**PROJECT TOTAL FOR A 60 DAY CONTRACT = \$66,647**

**PROS**

1. TRAFFIC IS DELAYED BUT CAN STILL TRAVEL THROUGH CONSTRUCTION ZONE.

**CONS**

1. LONGER CONSTRUCTION PROJECT, GREATER IMPACT TO RESIDENTS
2. HIGHER COST TO TAX PAYER FOR TRAFFIC CONTROL = \$46,710
3. HIGHER COST FOR ROCK AND ASPHALT ESTIMATED 2% = \$12,200
4. CONSTRUCTION INTO LATE FALL - POSSIBILITY OF PAVING DURING UNFAVORABLE TEMPERATURE

## **CRP 555 GLADE NORTH ROAD PHASE II**

**ENGINEERS ESTIMATE FOR CONSTRUCTION TRAFFIC CONTROL FOR FULL DETOUR.  
CONTRACT IS ESTIMATED TO TAKE 45 DAYS WITH DETOUR TRAFFIC CONTROL**

### **DETOUR 45 DAYS**

ASSUME A NINE HOUR WORK DAY FOR TRAFFIC CONTROL

1 FLAGGER @ \$34.25 per hour.

$9 \times 45 = 405 \text{ hours} \times \$34.25 = \$13,872$

**PROJECT TEMPORY TRAFFIC CONTROL ESTIMATE = \$6065**

**PROJECT TOTAL FOR A 45 DAY CONTRACT = \$19,937**

### **PROS**

1. SHORTER CONSTRUCTION PROJECT, LESS OVERALL IMPACT TO RESIDENTS
2. LOWER COST TO TAX PAYER FOR TRAFFIC CONTROL = \$-46,710
3. LOWER COST FOR ROCK AND ASPHALT ESTIMATED 2% = \$-12,200
4. CONSTRUCTION DURING LATE SUMMER AND EARLY FALL

### **CONS**

1. TRAFFIC MUST USE DETOUR AROUND CONSTRUCTION ZONE.
2. HARVEST TRAFFIC WOULD TAKE LONGER ROUTES

DRAWN BY  
DESIGNED BY  
APPROVED BY

REVISION  
DESCRIPTION

FEDERAL AID PROJECT NO.  
BY DATE  
CONTRACT NUMBER  
REGION STATE REC. YR.

GLADE NORTH ROAD  
CRP 555

CONSTRUCTION SIGNING AND DETOUR PLAN

SCALE  
SHEET  
REFERENCE  
CS1  
32  
32  
12 JUL 06

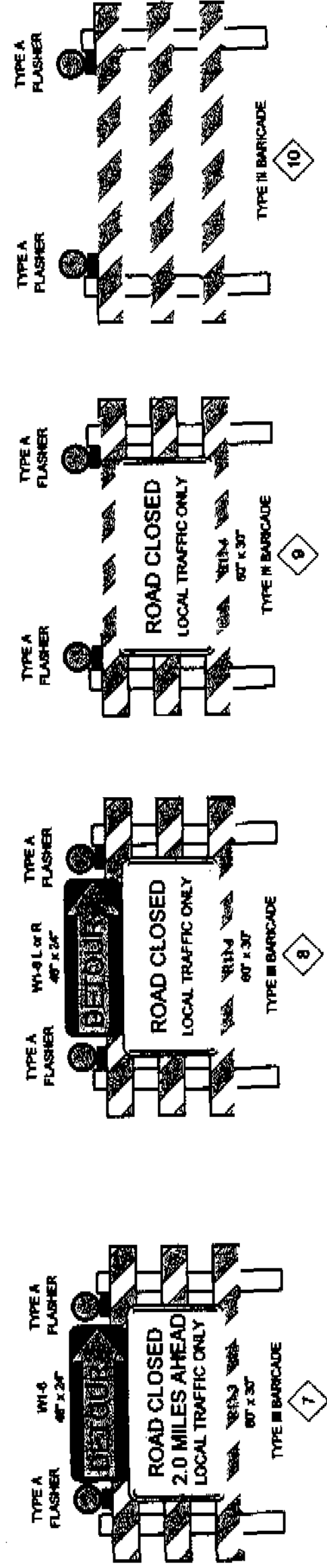
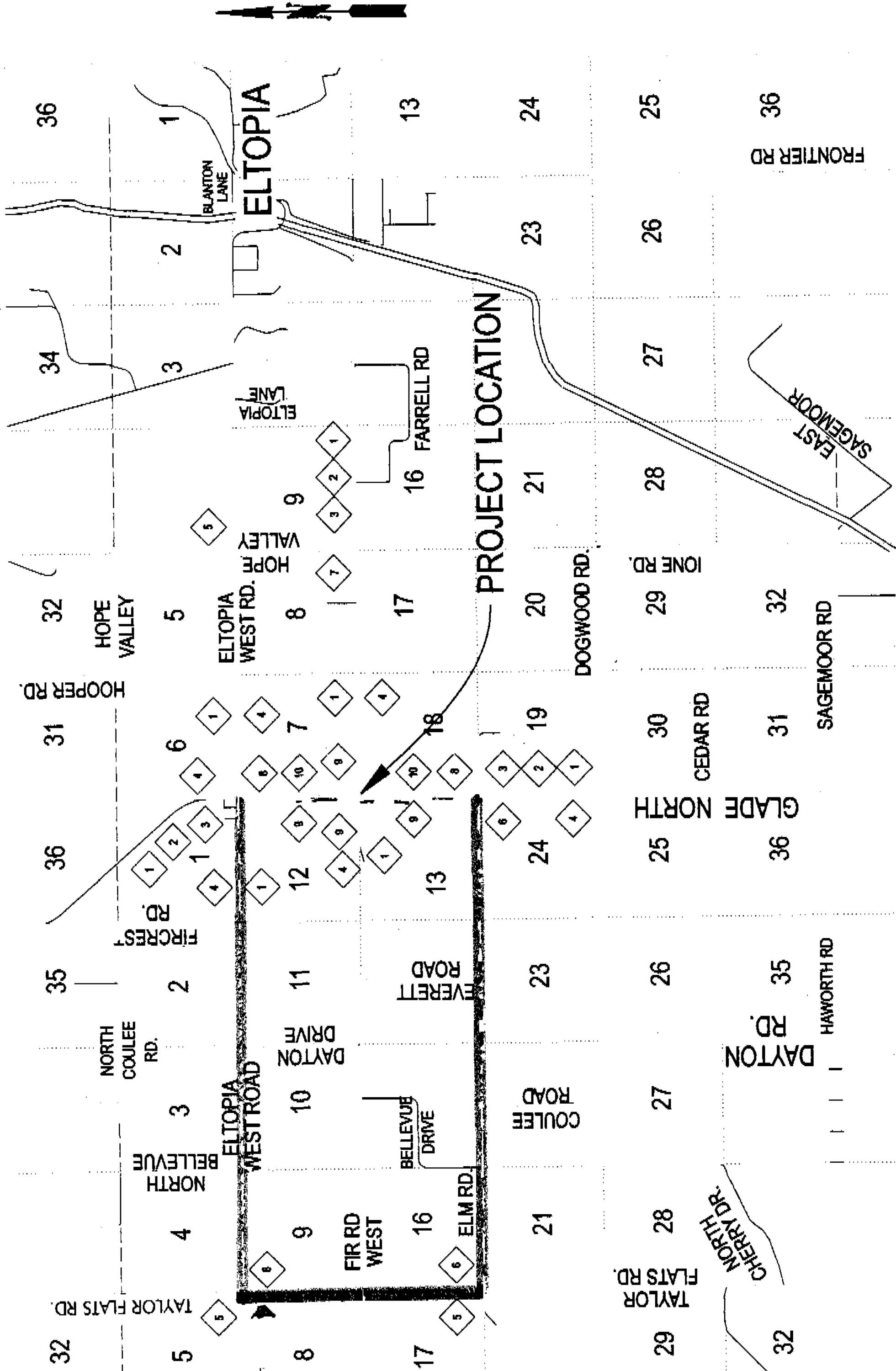
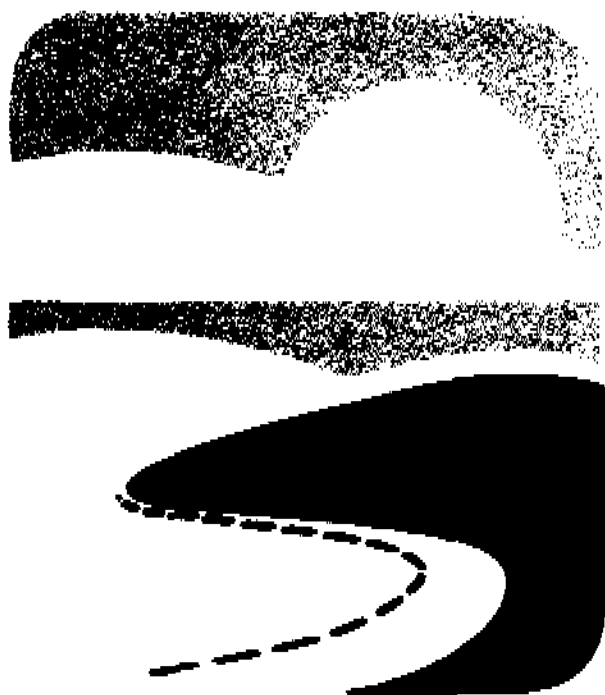


EXHIBIT 5  
June 28, 2006



# FRANKLIN COUNTY

## PUBLIC WORKS DEPARTMENT

**Tim Fife, P.E.**, Public Works Director/County Engineer  
**Guy F. Walters**, Assistant Public Works Director

DATE: June 28, 2006  
TF-06-034

TO: Board of Commissioners  
Franklin County, Washington

FROM: Tim Fife, P.E.  
Public Works Director/County Engineer

SUBJECT: CRP 555 – Glade North @ Fir Hill Traffic Control

After reviewing the traffic control required to complete the lowering of grade approximately 15 feet on Glade North at Fir Hill, it is impractical to attempt to keep Glade open to one-way traffic.

Therefore, as a minimum, we will need to close Glade North to traffic for approximately two weeks while the grading work is completed by the contractor. A temporary detour route will be signed and provided.

Further, we can realize approximately \$67,000 savings if we allow the contractor to close the road during times of construction. The road will be open and passable during non-working hours.

The savings will be more than just monetary. If we are allowed to close as requested, the project will be completed quicker with less overall impact to the public.


Your review and approval is hereby requested.

Dated this 28<sup>th</sup> day of June, 2006.

Recommended:

  
Tim Fife, P.E.  
Public Works Director/County Engineer


Approved:

  
Neva L. Corkrum, Chair

  
Robert E. Koch, Chair Pro Tem

  
Frank H. Brock, Member

Attest:

  
Clerk of the Board

*June 28, 2006*

### ***Jail overcrowding***

*First quarter of 2006 average daily jail population 185*

*Month of April the average daily population 208*

*Month of May daily jail population average 199*

*June average daily population for the first 28 days is 212, lowest day was today with 199, we have been as high as 220*

### ***Temporary solution***

*Add 4 correctional officers effective August 1<sup>st</sup>*

*Complete the Work release addition as soon as possible, this will gain us 28 beds in the Jail.*

*540 budget will need to be supplemented approximately \$67,000 for the 4 additional employees.*

*May need to supplement the 550 budget to handle the additional food costs for this number of meals per day.*

EXHIBIT 8  
*Franklin County Auditor*

June 28, 2006

1016 North 4th Avenue  
Pasco, WA 99301

ZONA LENHART, Auditor  
509-545-3840 • Fax: (509) 545-2142  
www.co.franklin.wa.us

P.O. Box 1451  
Pasco, WA 99301

June 28, 2006

Franklin County Commissioners:

Vouchers audited and certified by the auditing officer by RCW 42.24.080, expense reimbursement claims certified by RCW 42.24.090, have been recorded on a listing, which has been sent to the board members.

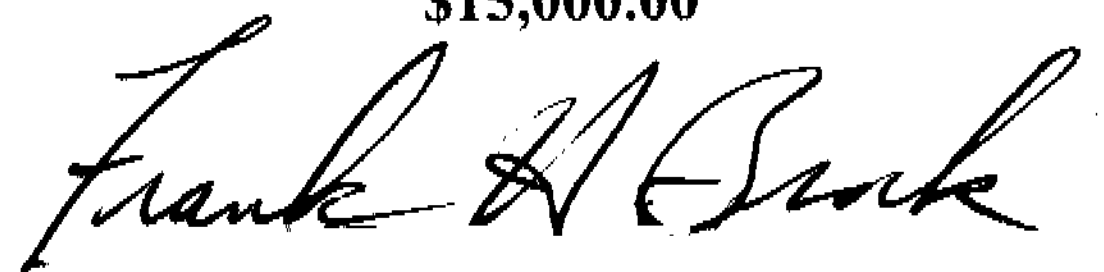
Action: As of this date, June 28, 2006,  
Move that the following warrants be approved for payment:

**FUND**  
**Expenditures**  
**TRAC**

**WARRANT**  
**Range**  
**9614**

**AMOUNT**  
**Issued**  
**\$15,000.00**

In the amount of **\$15,000.00**. The motion was seconded by  
And passed by a vote of **3** to **0**



Accounting  
545-3505

Elections  
545-3538

Recording  
545-3536

Licensing  
545-3533

June 28, 2006

Franklin County Commissioners:

Vouchers audited and certified by the auditing officer by RCW 42.24.080, expense reimbursement claims certified by RCW 42.24.090, have been recorded on a listing, which has been sent to the board members.

Action: As of this date, 06/28/2006  
move that the following warrants be approved for payment.

FUND	WARRANT	AMOUNT
<b>Salary Clearing Payroll:</b>		
	40560-40666	175,960.57
	40667-40677	178,633.47
	Direct Deposit	211,202.62
	<b>Total</b>	<b>\$565,796.66</b>

In the amount of \$ **565,796.66** . The motion was seconded by

and passed by a vote of **3** to **0** .

*Frank H. Brock*

**Emergency Mgmt Payroll:**

8051-8061	\$2,845.96
8062-8070	2,607.55
Direct Deposit	4,213.54
<b>Total</b>	<b>\$9,667.05</b>

**Irrigation Payroll:**

11822-11837	\$7,872.49
11838-11845	\$4,478.06
Direct Deposit	0.00
<b>Total</b>	<b>\$12,350.55</b>

AGENDA ITEM: Consent

MEETING DATE: B/C 06-19-06 F/C 06-26-06

SUBJECT: County Program Agreement with  
DSHS/CA Agreement 0663-96535 for ART  
Staff Training

Prepared By: Kathryn M. Phillips

Reviewed By: Sharon Paradis

#### TYPE OF ACTION NEEDED

Executive Contract xx

Pass Resolution xx

Pass Ordinance

Pass Motion

Other

CONSENT AGENDA xx

PUBLIC HEARING

1ST DISCUSSION

2ND DISCUSSION

OTHER

#### BACKGROUND INFORMATION

The Department of Social and Health Services, Division of Children and Family Services (DSHS/DCFS), has established the need to train their staff with the evidence based Aggression Replacement Training (ART) modal. ART is a multi-modal intervention design intended to alter the behavior of chronically aggressive youth. The Benton-Franklin Counties Juvenile Justice Center (BFJJC) has an ART Master Trainer on staff that is qualified and eligible to provide training to staff. DSHS/DCFS requested that BFJJC ART Master provide training to their staff. The term of this agreement is June 1, 2006, to June 30, 2007.

#### SUMMARY

DSHS/DCFS will pay according to the conditions set in Consideration section of the program's Special Terms and Conditions in the County Program Agreement.

#### RECOMMENDATION

I recommend that the Boards of County Commissioners authorize their Chairs to sign the Program Agreement # 0663-96535.

#### FISCAL IMPACT

This is a state contract by which we are reimbursed for services.

#### MOTION

I move that the Chair of the Board of Benton County Commissioners, and the Chair of the Board of Franklin County Commissioners be hereby authorized to sign, on behalf of their respective county, the Program Agreement for services between the Juvenile Justice Center and the Department of Social and Health Services, Division of Children and Family Services, for the term of June 1, 2006, through June 30, 2007.

Mr. Michael Murray, P.E.  
HDR Engineering, Inc.  
June 14, 2006  
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ravine mouth, and reached the road. Subsequent to those landslides, landslide debris was removed from the roadway and the road was reopened. Homes and the irrigation canal alignment have been moved because of concerns about or occurrence of landslides at this location. Other landslides have occurred along the slope north and south of the site, and on other nearby slopes along the northwest side of the valley, e.g., the 1984 landslide that closed Basin Hill Road, about 2 miles north of the site (Cornforth, 1987).

Soils exposed in the landslide headscarp and slope and underlying the plateau to the west are part of the Ringold Formation. The Ringold Formation consists of silt, sand, clay layers, and occasional gravel and cobbles (Cornforth, 1987). These soils and layering are visible in Photos 5 and 6. Very large landslides have occurred in Ringold Formation materials near the project site and along the Columbia River bluffs to the west (Schuster and Hays, 1984).

A broad, upland plateau is west of Road 170 and the slope in which the landslide occurred. Irrigation systems for farmland on this plateau are fed by South Columbia Irrigation District canals and wasteways. The canals are unlined or lined with blended on-site earth and imported clay. Pivot irrigation systems irrigate the land immediately west of the slope crest above Road 170.

### **OBSERVATIONS**

Shannon & Wilson engineers visited the site on May 16 and 25, 2006, to observe and document site conditions. Our observations are listed below.

- ▶ Landslide material buried an approximately 1,400-foot-long section of Road 170 under as much as 35 to 50 feet of soil.
- ▶ The landslide material extends across the roadway and irrigation canal and approximately 500 to 700 feet beyond the roadway onto the valley floor.
- ▶ The main landslide headscarp is an approximately 120-to 150-foot-high, near-vertical face. During our site visits, material fell from the headscarp face.
- ▶ The total vertical relief from the top of the headscarp to the valley floor at the landslide toe is approximately 330 feet. The vertical relief from the top of the slope to the road is approximately 300 feet.
- ▶ Clay, silt, sand, gravel, and cobbles are exposed in the headscarp. The clay, silt, and sand occur as near-horizontal beds varying from fractions of an inch to feet thick. A variable

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### INFORMATION FROM OTHERS

In addition to conducting the site reconnaissance, we reviewed selected historical and post-May 13, 2006, photographs of the landslide area and adjacent areas collected by Franklin County. We also reviewed the documents listed in the References section of this report. Franklin County provided many of these reference documents.

After visiting the site on May 25, 2006, we met with representatives from Franklin County, South Columbia Basin Irrigation District, and HDR. This meeting was held at the Franklin County office in Pasco, Washington. During this meeting we were informed that:

- ▶ The dwelling owner, located immediately north of the landslide's northern limit, was at home when the landslide occurred. This individual reported that the noise associated with the landslide lasted approximately 4 minutes.
- ▶ The irrigation canal on the plateau above the landslide was lined with a blended clay-earth lining when it was relocated in 1984.
- ▶ The South Columbia Basin Irrigation District was working on permanently bypassing the landslide area by pumping water from the wasteway in the valley floor to the irrigation canal south of the landslide, near the intersection of Klamath Road and Road 170.
- ▶ The Road 170 embankment and pavement between Sagehill Road and Klamath Road requires relatively frequent maintenance, possibly as a result of poor surface drainage, variable sub-pavement soil moisture conditions, swelling natural soils, or construction across loose or soft former landslide deposits.

During our May 25, 2006, site visit, we discussed the site history and irrigation practice with the landowner upslope of the landslide, Mr. James Thornton. He informed us that he applies approximately 280 acre-feet of irrigation water to 150 acres on the plateau between March and October of each year. In the last 20 years, he has modified his pivot irrigation system to use spray nozzles. This has resulted in a significant reduction of irrigation water applied relative to the flood irrigation techniques used on the property in the 1960s and the previous impact style sprinkler heads on the pivot irrigation systems. Mr. Thornton also informed us that water readily infiltrates the upper soils and gravel and cobble layer below the plateau fields above the landslide.

Mount Saint Helens, about 150 miles west of the site. Therefore, in our opinion, earthquakes did not contribute to the landslide occurrence.

In our opinion, landslides will likely occur in the same location as the May 13, 2006, landslide and along the slope north and south of this landslide. This opinion is based on our review of historical photographs and previous reports and landslide studies in the area, observation of slopes adjacent to the landslide, our understanding of the irrigation system and irrigation practice on the plateau, and geologic data. The slopes above Road 170 north and south of the landslide are prone to landsliding, as evidenced by the hummocky ground surfaces, headscarps, grabens, ground cracks, and history of landslides. The frequency and magnitude of potential landslides depends on a number of factors that cannot be readily quantified.

Weak, natural soil deposits, past ground movement, and elevated groundwater conditions related to irrigation system leakage and operation contribute to potential instabilities. Rainfall, while not likely a factor in the May 13, 2006, landslide, could contribute to landslides depending on groundwater condition at the time of the rainfall event. However, because of the relatively dry climate, irrigation-related water will, in most instances, likely be the principal factor in setting the stage for landslide occurrence on slopes at and adjacent to this site.

## RECOMMENDATIONS

Franklin County could pursue a number of alternatives to deal with the May 13, 2006, landslide and landslide hazard at the site and adjacent area. These alternatives include, but are not limited to, one or a combination of those discussed below. Detailed design addressing all challenges associated with these alternatives is not presented but should be developed prior to implementation. Alternatives presented for the May 13, 2006, landslide site do not address restoring or reconstructing the landslide material-blocked irrigation canal, because we understand that the South Columbia Irrigation District will permanently reroute their system around the landslide and abandon the now-buried canal through the area.

**Alternative 1: Abandon the current road alignment where it has been covered by landslide debris.**

**1a.** Relocate traffic to existing roads that avoid the May 13, 2006, landslide area and possibly avoid the entire landslide complex along this length of Road 170.

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June 14, 2006  
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horizontal alignment is modified and the roadway alignment curved slightly eastward where it crosses the landslide debris.

A roadway crossing the landslide mass would be subject to movement and damage when the landslide mass moves and would be subject to impact by future failures of the headscarp. The road at the north end of the May 13, 2006, landslide debris would be at risk of impact or damage by landslides discharging from within the ravine that extends west of Road 170 at the north end of the landslide. North and south of the May 13, 2006, landslide mass, Road 170 would be at risk of impact by landslides initiating on the slope. Events initiating on the slope have reportedly been less frequent than events initiating within or adjacent to the ravine.

Embankment and roadway performance may be less than is normally desirable because the landslide debris is variable, very loose, blocky, saturated (or was saturated), uncompacted, subject to breakdown by wetting and weathering, and contains organic materials and swelling soils. Such conditions could result in requiring frequent maintenance for the roadway and drainage ditches. The road surface should likely be paved or treated with a dust suppressant because of the potential for blowing dust that would otherwise occur. Cut slopes should be limited to short lengths and low height. Cut-and-fill slopes should be 3 Horizontal to 1 Vertical (3H:1V) or flatter.

Roadway performance could be improved by densifying the landslide debris below and adjacent to the roadway. The densification width should extend a distance from each roadway edge equal to the debris depth above the pre-May 2006 ground surface. This material could be compacted in situ using deep, dynamic compaction or rapid impact compaction. Deep, dynamic compaction is performed by using a large crane to repeatedly drop a large weight on the ground surface. Two to three passes across the treated area would likely be required. Rapid impact compaction is performed using a high-frequency, large hammer mounted on an excavator-like tracked chassis. For both these methods, the achieved improvement depth would be on the order of 15 to 25 feet.

Constructing the upper few feet of roadway section using geosynthetic-reinforced soil may also improve roadway performance and decrease maintenance and repaving frequency. Reinforcing the upper 3 to 4 feet of embankment with two to three continuous geotextile or geogrid layers would create a mat on which to construct the road and provide a means for the roadway fill to bridge soft or weak spots in the underlying debris. While reducing differential settlement, this

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We recommend that a survey, subsurface explorations, and stability studies be completed prior to pursuing Alternative 3. Excavating material to open the roadway will reduce stability of the remaining landslide material west of the road and the upslope hills, relative to the current stability condition. Depending on the slide surface location, inclination, and groundwater conditions, cut slopes flatter than 3H:1V, and/or additional stability improvement measures may be required, e.g., subsurface drains to remove groundwater and to limit groundwater rise and/or retaining structures.

Landslide debris beyond the roadway excavation limits should be graded to provide drainage, as discussed for Alternative 2, prior to or simultaneous with roadway excavation. Ponds should be drained, and drainage for the stream that discharges from the ravine should be established prior to roadway excavation.

If sufficient land is available or agreements can be reached with adjacent property owners, it may be possible to dispose of much of the soil on adjacent properties, as opposed to hauling the excavated material to an off-site disposal area. Alternatively, the material could be hauled off site for disposal. Engineering studies may be required for disposal areas, depending on the sites selected.

The road at the north end of the May 13, 2006, landslide zone would remain at risk of impact or damage by landslides discharging from the ravine. North and south of the May 13, 2006, landslide mass, Road 170 would remain at risk of impact by landslides initiating on the slope. Events initiating on the slope have reportedly been less frequent than events initiating within or adjacent to the ravine.

Water and wind erosion could affect the roadway and adjacent areas. Erosion and blowing dust could be reduced by establishing vegetation across the bare soils on graded areas and the landslide surface.

Stability improvement measures, in addition to the grading presented for this alternative, may be necessary, see the Task 3 services discussion, below.

### **Opinion of Probable Construction Costs**

We have insufficient information to produce accurate estimates of construction cost for the alternatives. However, we have been requested to provide rough order-of-magnitude

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HDR Engineering, Inc.  
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If the County elects to pursue one or more of the alternatives that result in reopening of Road 170 across the landslide, we could perform additional reconnaissance and analyses to provide recommendations for potential remedial options. Provision of these recommendations is presented as Task 3 services in our May 19, 2006, proposal. Options to improve slope stability at the site and north and south of it may include ground surface grading and shaping, horizontal drain installation to remove water from the slope, impermeable liner installation in upland irrigation canals, and irrigation limitations in certain areas.

Horizontal drains are one means of removing groundwater from slopes and improving slope stability where groundwater is a primary destabilizing mechanism. Horizontal drains consist of slotted pipe installed in holes drilled into the slope face. These holes are inclined slightly upward so that water intercepted by the pipes flows to the slope face. In our opinion, the probable construction cost for 200-foot-long horizontal drains installed at approximately 50-foot centers in slopes north and south of the landslide would be on the order of \$150,000 to \$300,000 for each 1,000 feet of slope in which they are installed.

### **CONCLUDING REMARKS**

This letter report was prepared for the exclusive use of Franklin County and HDR for the May 13, 2006, Road 170 landslide assessment. This letter report should be provided to planners, other design professionals, and contractors for information based on factual data only, and not as a warranty of subsurface conditions, such as those interpreted from our observations and discussions of subsurface conditions included in this letter report.

The recommendations given in this letter report are intended to suggest remedial measures that might be undertaken to provide vehicle access around or through the site. Alternatives 1b, 2, and 3 should not be pursued until surface and subsurface drainage measures and disposal of water are addressed. As with any such site located on or near a slope, there is a potential for slope instability that could affect improvements near the slope. Damage caused by slope instability is a risk that Franklin County, roadway users, and adjacent property owners and users must be prepared to accept. In addition to natural factors (heavy precipitation, steep topography, and soil and groundwater conditions), other risks include irrigation, irrigation canal leakage, water leaks, pipe breaks, improper or inappropriately redirected drainage, lack of maintenance for drains or vegetative cover, filling or saturation at the slope top or excavating at the slope bottom, unwise

## REFERENCES

- Brown, R.E., and McConiga, M.W., 1960, Some contributions to the stratigraphy and indicated deformation of the Ringold Formation: Northwest Science, v. 34, no. 2, p. 43-54.
- Brown, R.E., 1971, Environmental changes caused by irrigation in the Pasco Basin, Washington: Society of Mining Engineers Meeting, September 22-24 8 p.
- Cornforth, D.H., 1987, Letter to Mr. B. Gilkeson, Franklin County Highway Department, Re: Basin Hill Road landslide near Basin City, Washington: August 31, 5 p.
- Drost, B.W., Ebbert, J.C., and Cox, S.E., 1993, Long-term effects of irrigation with imported water on water levels and water quality: United States Geological Survey Water-Resources Investigations Report 93-4060, 19 p.
- Fife, T., Franklin County Public Works Director and County Engineer, 2006, Memorandum on "R-170 slide May 13, 2006," dated 5/19/06, 3 p. with the following attachments:
- Attachment 1: Brown, R.E., 1987, The development of drainage problems in Franklin County, Section 5 "Ringold Coulee Area, Including Highway R 170, West Klamath and Russell Roads and Elmar Road," July 14, 2 p.
- Attachment 2: 100<sup>th</sup> Congress, 1<sup>st</sup> Session, H.R. 2558. (2 pages)
- Attachment 3: Department of the Interior Bureau of Reclamation, 1992, Technical report Franklin County Roads Study, Washington, October.
- Attachment 4: Fife, T., 1994, Evaluation of the United States Bureau of Reclamation Franklin County Roads study of October 1992, July 5, 5 p.
- Attachment 5: Morrison Knudsen Corporation, 1991, Franklin County roads study 1 roadway sections, USBR Indefinite Delivery Contract #0-CA-10-10470, Delivery Order No. 1, August 9, p. 3 and 4 of 10.
- Attachment 6: Board of Commissioners for Franklin County, State of Washington, 2006, Declaration of a landslide emergency, emergency declarations: Franklin County Resolution No. 2006-254, May 13, 2 p.
- Grolier, M.J. and Bingham, J.W., 1971, Geologic map and sections of parts of Grant, Adams, and Franklin Counties, East-Central Washington: United States Geologic Survey, Miscellaneous Geologic Investigations Map I-589.