



CALIFORNIA
DEPARTMENT OF
EDUCATION

1430 N STREET
SACRAMENTO, CA
95814-5901

JACK O'CONNELL

State Superintendent of
Public Instruction

PHONE: (916) 319-0800

 **FILE**

June 6, 2007

Pittsburg Unified
2000 Railroad Ave.
Pittsburg, CA 94565

Project Tracking No: 61788-21
Re: New Middle School (Range Road)
[Range Road and Leland Road]
County: Contra Costa
Acres: 25
Grade Level: 6 - 8

Dear Superintendent:

Subject: Site Approval -- Supercede

The California Department of Education approves the acquisition of and/or use of, for school purposes, the parcel of property described on the attachment. This site meets the California Department of Education's standards for educational adequacy (California Code of Regulations, Title 5, 14001 et seq. and Education Code 17251(c) and (d)). It is the responsibility of the district to complete all of the mitigation measures identified in the documents submitted to the California Department of Education for review.

This letter revises and supercedes the letter issued on April 26, 2007.

The property approved for acquisition and/or use is 25 gross acres of which 20 are usable for school purposes. This represents 80.32% of the California Department of Education's recommended master plan site size of 24.9 acres as contained in the California Department of Education's Guide to School Site Analysis and Development (2000).

As required by Education Code 17072.12(b) and State Allocation Board Regulation 1859.75(b) for districts requesting state aid in site acquisition, the district has certified to the California Department of Education that there are no district owned sites that are usable for this project.

This supersede letter corrects comments included in the original approval letter.

The California Code of Regulations (CCR) Title 5, Section 14010 (h) states that: "The site shall not be located near an above-ground water or fuel storage tank or within 1500 feet of an easement of an above-ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission." This applies to pressures that exceed 80 psi (pounds per square inch).



Levine Fricke (LFR) Environmental Management and Consulting Engineering issued a Stage 2 Pipeline Risk Analysis September 30, 2006 that analyzed the risks associated with the natural gas and water pipelines that are within 1500 feet of the site. The LFR report identified that the mitigation to reduce the risk to an acceptable level based on the 2002 CDE Pipeline Guidance Protocol. The District must confirm that the plans are designed in accordance with the mitigation measures identified in the LFR report, including the:

1. Risk Management Plan (RMP) listed in Stage 2 Pipeline Risk Analysis Attachment 2, and
2. Design and construction recommendations.

The net usable acres reflect the 150' set back from the 230Kv power transmission lines along the west property line. No school use is allowed in the set-back area (CCR, Title 5, Section 14010 (c)). Preliminary and final plans submitted for the project must identify the 150' set-back from the power transmission lines. The District must confirm that the plans are designed in accordance with the mitigation measures identified in the LFR report.

This approval is for the portion of the site identified for the new middle school, a separate CDE Site Approval letter will provide the approval for the portion of the site identified for the new elementary school.

The applicant has certified that this project is either exempt from, or has completed, the California Environmental Quality Act (CEQA) process.

The district has met the requirements of Education Code 17213.1 regarding the preparation of a Phase I environmental assessment or a Preliminary Endangerment Assessment (PEA), and/or the completion of a Response Action, and the Department of Toxic Substances Control has issued a determination letter dated June 14, 2006 indicating that no action or no further action/investigation is required for this site.

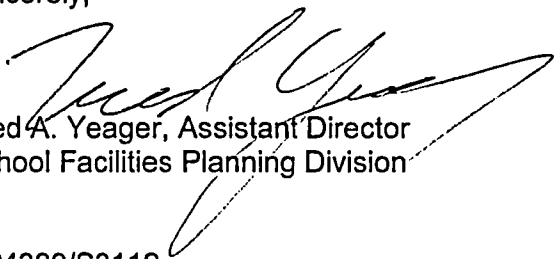
This site approval is valid for a maximum of five (5) years from the date of this approval letter. However, if prior to acquisition and/or initiation of the response action, changes take place within this five-year period which would affect or alter the Department of Education's original approval--including but not limited to, changes in surrounding land uses or CEQA determination, the master plan capacity of the site and changes in code and/or regulation--the site may be subject to reevaluation using the current standards in effect at the time of reevaluation.

Pittsburg Unified
June 6, 2007
Page 3

PTN: 61788-21
New Middle School (Range Road)
Range Road and Leland Road

Please contact the consultant identified below if you have questions regarding this letter.

Sincerely,



Fred A. Yeager, Assistant Director
School Facilities Planning Division



Dave Hawke
School Facilities Planning Division
(916)322-1459

DP4329/S3112
cc: OPSC Real Estate



ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

January 23, 2007

003-09226-01

Mr. Mark Bonnett
Assistant Superintendent
Business Services
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, CA 94565

Stage 3

Subject: Final Report – Stage 3 Pipeline Risk Analysis Report, Range Road Middle School site, Pittsburg, California.

Dear Mr. Bonnett:

LFR, Inc. (LFR) is pleased to provide this report to the Pittsburg Unified School District (PUSD) presenting the findings of a Stage 3 pipeline risk analysis for the proposed Range Road Middle School site. The site is to be located at the corner of Range Rd. and W. Leland Rd. in Pittsburg, California (“the Site”; Figure 1). This analysis has been completed in accordance with our proposal dated July 21, 2006.

This report presents an evaluation of potential risks to identify imminent health and safety threats to students, faculty, and staff within the boundary of the Site and provide suggestions for risk control through preventative and mitigation measures. This report was prepared in accordance with California Education Code Section 17213 and summarizes the evaluation’s findings as well as describes the methodology used.

EXECUTIVE SUMMARY

Potential consequences of accidental releases were considered from six (6) natural gas pipelines (PG&E), three (3) East Bay Municipal Utility District (EBMUD) water pipelines, and one (1) Contra Costa Water District (CCWD) water pipeline located within 1,500 feet of the Site’s boundary lines.

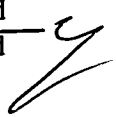
A Stage 2 pipeline risk analysis was performed for the six natural gas pipelines and the four water pipelines. The results of the risk analysis were discussed in LFR’s report entitled “Stage 2 Pipeline Risk Analysis of the Natural Gas Pipelines and Water Pipelines located within 1,500 feet of the proposed Range Road Middle School site, Pittsburg, California” dated September 30, 2006 (“Stage 2 Pipeline Risk Analysis”). The Stage 2 report is included as Appendix A and includes a description of the risk analysis methodology, map of the site vicinity and pipeline locations, detailed calculations, and risk analysis findings.

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~~In the Stage 2 Risk Analysis, five of the six natural gas pipelines were found to pose an insignificant individual and societal risk to the Site. However, one of the natural gas pipelines [PG&E:SP3(a)] was found to pose a significant individual and societal risk to the Site if a full rupture-release of the pipeline were to occur and the release were to ignite, resulting in a vapor cloud explosion. The Stage 2 Risk Analysis recommended risk mitigation measures be developed and evaluated as a part of a more detailed site-specific risk analysis (Stage 3).~~

~~According to topographic maps, the Site is located on land that gradually slopes to the east. As a result, a leak or rupture from any of the four (4) water pipelines will most likely not accumulate on the Site in a way that will pose imminent health and safety risks to the school population.~~

Site specific ^{preventative} and mitigation measures developed in this Stage 3 risk analysis should reduce the individual and societal risk at the Site to within acceptable limits. Measures discussed include operator's practices, school practices, and site plan considerations. 

GEOTECHNICAL ANALYSIS

Two types of accidental release scenarios were assessed during the Stage 2 pipeline risk analysis. The first scenario was a leak due to a 1-inch diameter hole in a pipeline. Such a leak could result from various incidents, including accidents during excavation along the pipelines. This is the most common type of release event and is evaluated in all pipeline assessments. The second scenario was a full pipeline rupture. A full pipeline rupture is less likely to occur and is usually only considered if the subject site is within an active seismic region or may be subject to potential landslide or ground erosion. Geologic or geotechnical conditions that could affect the performance of a pipeline are related to ground movement such as landsliding, fault rupture, or liquefaction due to ground shaking.

The Geohazards report done for the Site by CRA (CRA, 2005) identified one seismic hazard that could affect the proposed Range Road Middle School site. The Greenville fault, which is classified as a "Type B" fault in the Unified Building Code (UBC), is located approximately three miles southwest of the Site. The geohazard report states that this fault has potential to generate a Maximum Credible Earthquake of M-6.9, which could result in significant seismic ground motion. Therefore, state law mandates that UBC Seismic Zone 4 parameters (i.e. building design) be implemented.

According to the geotechnical report conducted by Kleinfelder (Kleinfelder, 2006), an issue that may affect the Site is the presence of near-surface expansive soils throughout the Site. Potential impacts of these soils on project features may include post-construction movement or heave of concrete slabs and lightly loaded foundations. Recommendations and mitigation measures (i.e. positive site drainage, replacing top layer with fill) to deal with the expansive soils are further outlined in the geotechnical report.



The potential for fault rupture is considered remote since the pipelines do not cross an active fault (with surface expression) within a few miles of the Site area. Also, the potential for slope failure and inundation from flooding of nearby watercourses or failure of reservoirs is considered very low.

Liquefaction risk is not usually regarded as significant if the water table is more than 50 feet below ground surface. Based on the borings collected by Kleinfelder for the geotechnical report, the Site is underlain by interbedded layer of very stiff to hard clay/silt soils. Free ground water was not observed within 50 feet of the surface, thus making the potential for liquefaction at the Site low. Moreover, the plasticity index (PI) of the soil material is greater than 12, which classifies the soil as "not potentially liquefiable".

ELECTRIC POWER LINE ANALYSIS

California Code of Regulation (CCR) Title 5, Section 14010(c) requires that the property line of a proposed school site, even if it is a joint use area, be located the following minimum distances from the edge of power-line easements unless an analysis is provided that incorporates buffering or shielding of the lines:

- 100 feet for a 50- to 133-kilovolt (kV) line
- 150 feet for a 220- to 230-kV line
- 350 feet for a 500- to 550-kV line

The primary concern is electromagnetic fields and their potential health effects on persons using the Site.

Currently, the eastern edge of the proposed Site is located near a PG&E easement containing two 230 kilovolt (kV) power lines (Figure 2). The boundary of the PG&E easement is approximately 50 feet from the Site. Since the setback distance required from a 230kV easement is 150 feet, it is recommended that no buildings or playfields be constructed within 100 feet of the Site's eastern boundary. The architectural site plans produced by California Design (West Architects, Inc.) for the Range Road Middle School site have incorporated the recommended setback distance of 150 feet and the associated design restrictions (Attachment 1).

Same as at Central?

RISK CONTROL THROUGH PREVENTION AND MITIGATION (STAGE 3)

The May 2002 Protocol identifies commonly adhered to measures that can potentially reduce risk, including pipeline operator's practices, school site practices, and school design factors. LFR has also investigated additional mitigation measures that are not specifically addressed in the Protocol in order to further improve the safety of the Site population. These measures are discussed below and evaluated based on Site conditions to assess whether the measures could potentially reduce the risk posed by the pipelines.



Operator's Practices

The May 2002 Protocol identifies commonly adhered to risk control measures, including the Code of Federal Regulations, Title 49, Part 192, that defines prevention and mitigation measures for many different types of pipeline leaks. In particular, an operator's practice must conform to the minimum requirements of applicable federal or state regulations. In practice, pipeline operators adhere to these requirements.

A common cause of pipeline leaks that may lead to explosions/jet fires is excavation activities. In order to lower the risk of potential incidences during excavation near the pipelines, LFR has prepared a Risk Management Plan (see Attachment 2). The Risk Management Plan (RMP) highly recommends notification to school officials (PUSD Assistant Superintendent and Principal of Range Road Middle School) prior to any excavation or maintenance activities of any pipeline segment located within 1,500 feet of the school boundary. It also outlines the proper procedures to follow in the event of an accidental release incident. LFR recommends this RMP be filed with the local public works department and utility company.

School Site Practices

Mitigation measures are usually pre-engineered systems, procedures, and practices that reduce the consequences of a pipeline product release. Emergency preparedness and emergency response plans are among the basic elements of mitigation.

LFR has prepared an Emergency Evacuation Plan (EEP) as part of the RMP for the Site. The EEP outlines appropriate evacuation routes and procedures for the Site population in the event of a release incident. In accordance with the setback distances recommended in this pipeline risk assessment, the emergency evacuation areas are located at least 530 feet (leak-explosion setback distance) from the SP3(a) pipeline. Routine emergency evacuation drills should also be performed to allow all site occupants to be familiar with the procedures.

Site Layout Considerations

PG&E has maintained Incident Statistics since 1984 which show that no full ruptures of pipelines greater than 4-inch nominal diameter or .5 inches in wall thickness have occurred. According to the document entitled, "California Department of Education Proposed Standard Protocol for Pipeline Risk Analysis, Revised Draft 2", dated September, 2005, incident statistics can be used in a Stage 3 analysis to determine the risk probability. In the Stage 2 analysis, a probability of 20% for a full rupture release event was assumed. By using the PG&E incident statistics in the Stage 3 analysis, risk due to a full pipeline rupture would be eliminated for all six of the PG&E natural gas pipelines within 1,500 feet of the Site boundary.

It is LFR's opinion that site safety would be adequately addressed by implementing a project design according to the constraints shown in Figure 3. Segment A corresponds to the setback distance of 530 feet from the SP3(a) pipeline location (southern boundary of Site). As stated on



Figure 3, any buildings, playfields, or parking located in this area would require mitigation such as blastwalls, berms, or structural reinforcement designed for the psi values listed in Table 1:

Table 1

SP3(a) 26-inch NG (600 psi max)

Overpressure (psi)	Distance from pipeline (ft)
> 12	< 100
7.8	150
5.0	200
4.3	250
3.7	300
3.2	350
2.5	400
1.8	450
1.4	500

*SP3a
table
1*

On December 15, 2006, LFR attended a meeting with Mr. Mark Bonnett (PUSD Assistant Superintendent), Mr. Jim Bush (School Site Solutions), Mr. Mitch McAllister (Design West), and Mr. Steven Granieri (SMF Consulting) to discuss the Site layout and structural design of Range Road Middle School. At the meeting, it was determined that the structural integrity of the buildings located within the 530-foot setback will be designed to withstand the side-on overpressure from a leak-explosion blast (which is based on the building's distance from the pipeline as outlined in Table 1). Mr. Granieri, a blast window consultant, recommended windows that will be able to withstand the designated psi values at a given distance from the pipeline as shown in Table 1. A summary of his recommendations and qualifications can be found in Attachment 3. The window performance design will be HS-HC50 or HS-AW40 and will also incorporate partial or full lamination of the glass.

As shown in Attachment 1, there are parking areas and two basketball courts located within 530 feet of the SP3(a) natural gas pipeline. It is LFR's opinion that no additional mitigation is required for these areas since they lay approximately 15 feet below the pipeline elevation. The molecular weight of natural gas (CH₄) is less than that of air. Therefore, the blast from a leak-explosion will approach the Site at an angle and will most likely not impact the parking areas and basketball courts significantly since they are at a lower elevation than the pipeline.

A setback distance of 150 feet from the PG&E 230 kV power line easement on the eastern edge of the Site will be observed. Currently, the only feasible mitigation measure that would reduce the potential impact from the electromagnetic fields within the 150 foot setback distance is to bury and shield the power lines. Therefore, the setback area will not contain any buildings, playfields, or parking.



CONCLUSIONS AND RECOMMENDATIONS

To reduce the individual and societal risk posed by the SP3(a) pipeline at the property boundary and centerpoint of the Site, preventative and mitigation measures have been developed. Implementation of the following measures should reduce the individual and societal risk at the Site to within acceptable levels:

- Follow the Risk Management Plan (RMP) as outlined in Attachment 2
- Adhere to the design constraints labeled in Figure 3
- Construct the buildings and windows within the 530-foot setback to withstand the designated psi values at a given distance from the pipeline as shown in Table 1

LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, expressed or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigation or testing and any findings presented in this report apply solely to conditions existing at the time when LFR's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. LFR's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

LFR, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.



It has been a pleasure to work with you on this project. If you have any questions concerning this report or attachments, please call the undersigned at (510) 652-4500.

Sincerely,

A handwritten signature in cursive script that reads "Douglas G. Wolf".

Douglas G. Wolf
Principal Engineer

A handwritten signature in cursive script that reads "Alan D. Gibbs".

Alan D. Gibbs, R.G., C.H.G., R.E.A. II
Principal Hydrogeologist

Attachments



References

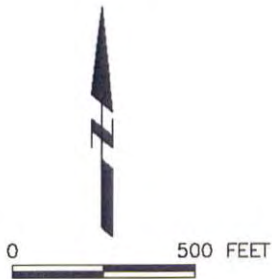
CRA, March 2005. Geological Hazards Assessment, Range Road Middle School Site. October 1.

Kleinfelder, May 2006. Geotechnical investigation Report, Range Road Middle School Site.
October 1.

FIGURES



----- Site Location



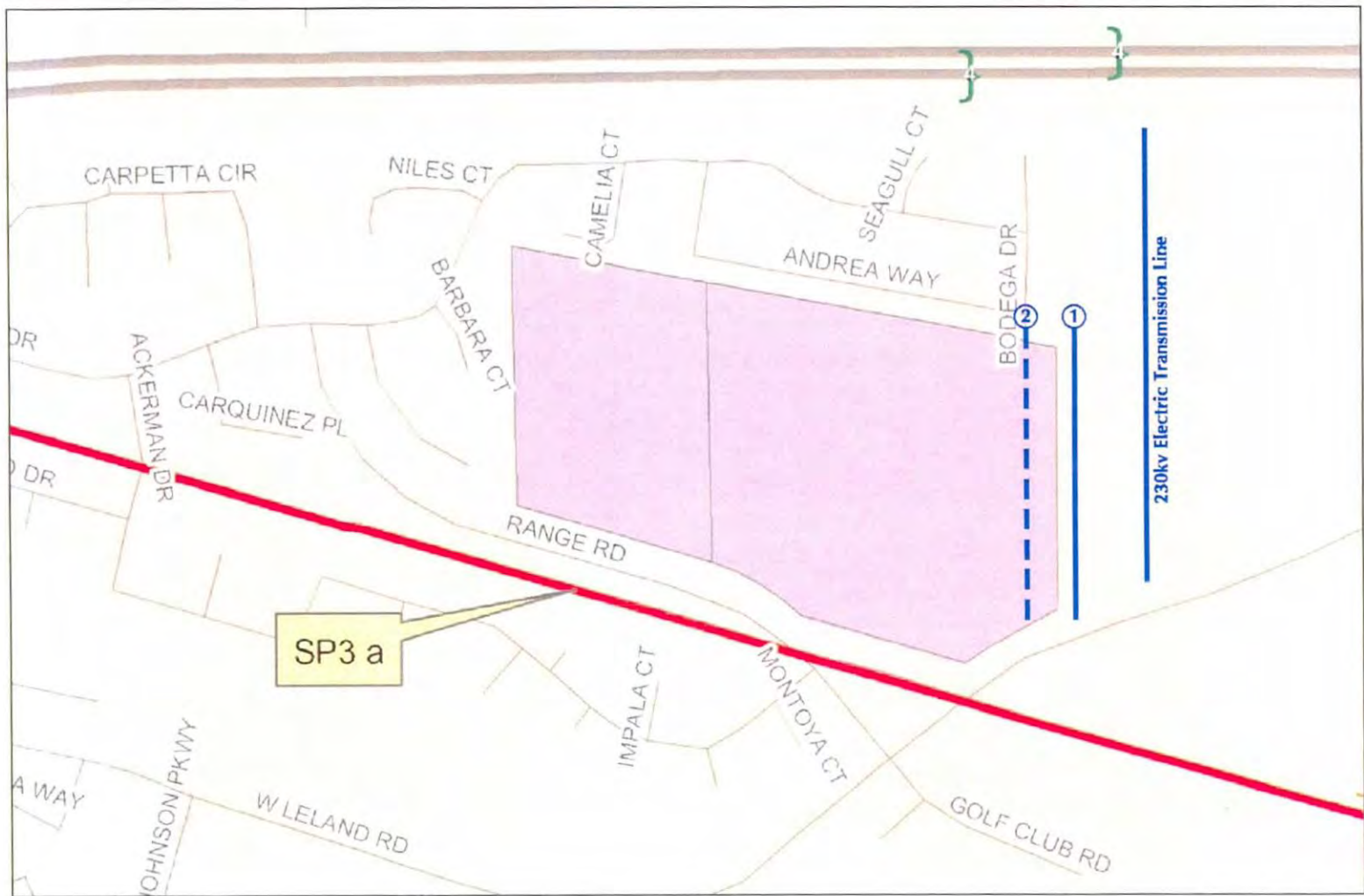
**Site Location Map
Range Road Middle School Site**

Range Road & W. Leland Road, Pittsburg, CA

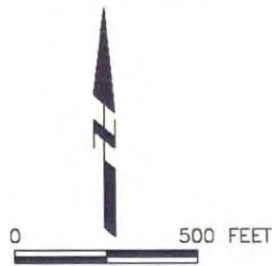
SOURCE: Google Earth 2006



Figure 1



- ① Approximate Boundary of PG&E Easement (220 feet)
- ② Approximate Setback Distance from PG&E Easement (150 feet)

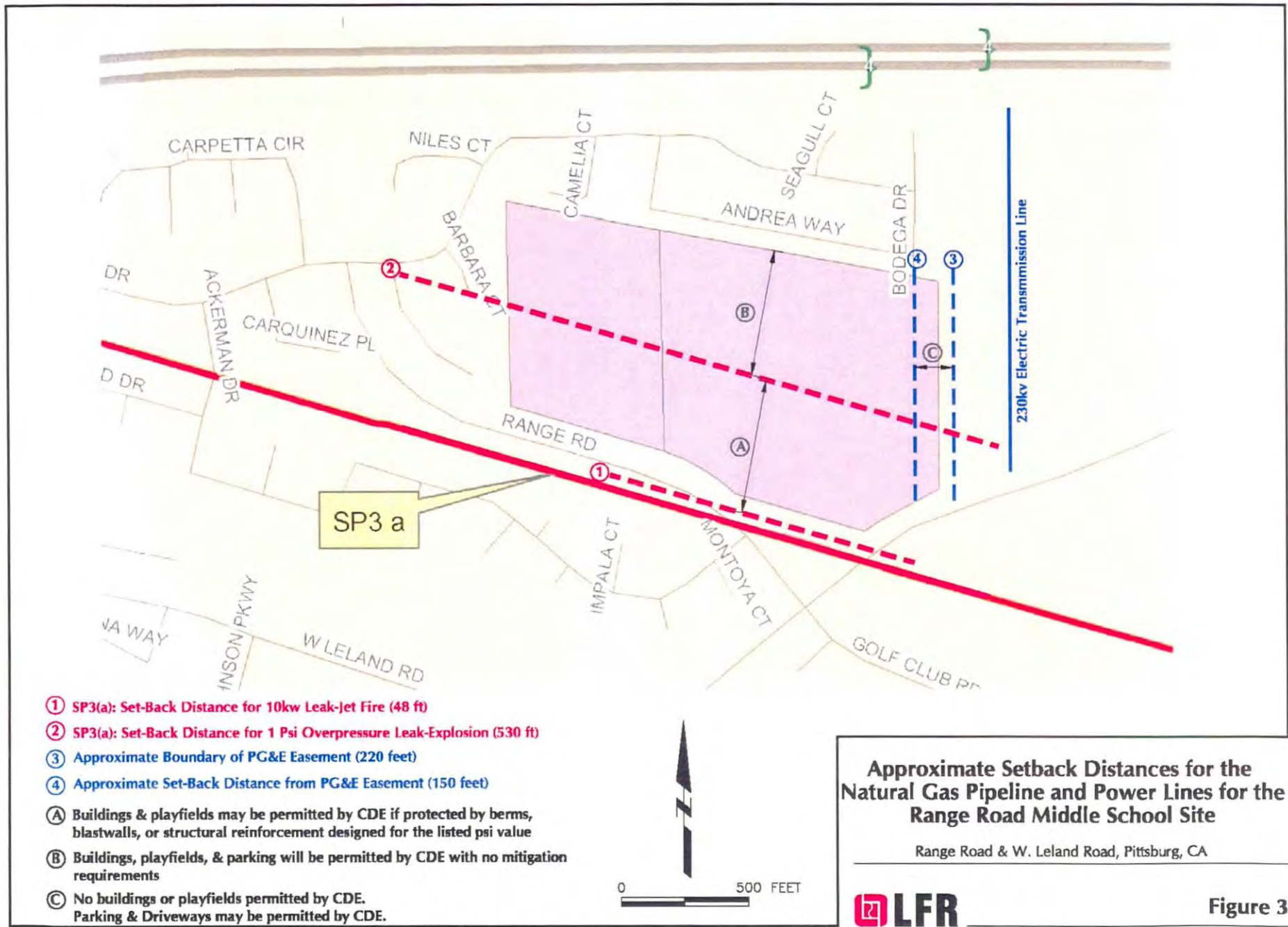


Power Line Locations and Approximate Setback Distances for the Range Road Middle School Site

Range Road & W. Leland Road, Pittsburg, CA

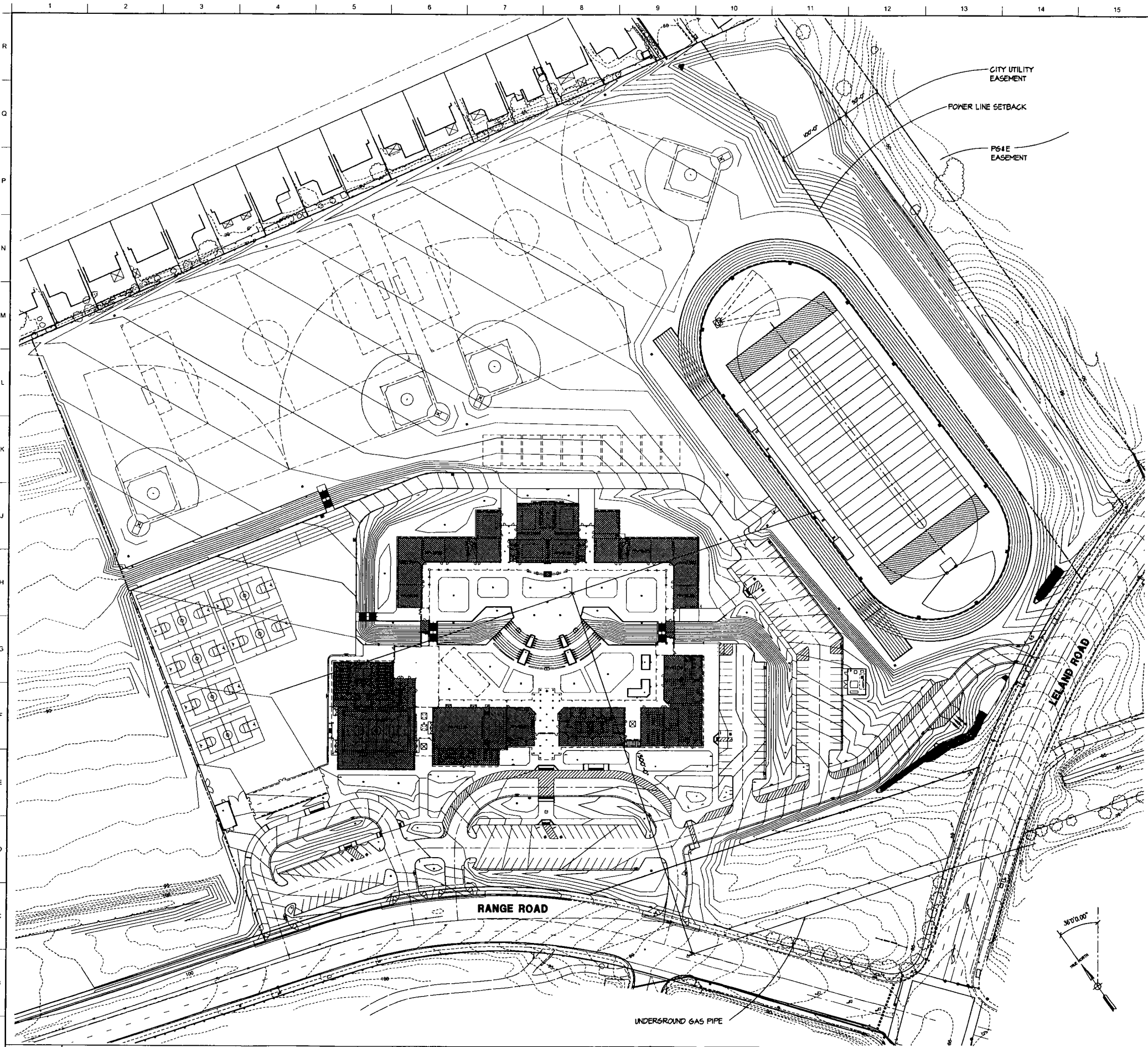


Figure 2



ATTACHMENT 1

SITE PLAN FOR RANGE ROAD MIDDLE SCHOOL

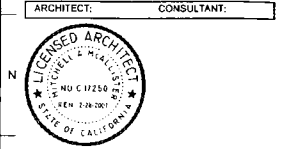


LEGEND	
---	PROPERTY LINE
---	CHAIN LINE, FENCE, TYP.
---	ORNAMENTAL METAL FENCE
.....	PATH OF ACCESSIBLE TRAVEL 1:20 MAX. SLOPE, SEE NOTE #1
○ DF	DRINKING FOUNTAIN
⊕ FH	FIRE HYDRANT
⊕ FDC	FIRE DEPT. CONNECTION
⊕ FIV	POST INDICATOR VALVE
[Hatched Box]	BUILDINGS
[Diagonal Lines]	CONC. PAVING, SEE L1UGSO1
[Dotted Box]	CONC. PAVING, SEE L1UCSO1
[Cross-hatched Box]	ASPHALT CONC. PAVING SEE P1UCSO1
[Vertical Lines]	ASPHALT CONC. PAVING SEE P1UCSO1
[Horizontal Lines]	ASPHALT CONC. PAVING SEE P1UCSO1
[Stippled Box]	ASPHALT CONC. PAVING SEE P1UCSO1
○ GSO1	SIGN, SEE SPECIFICATIONS
○ GSD	GATE, SEE A14UCSO1 GATE SCHEDULE FOR MORE INFO.

- NOTES**
1. PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS WITHOUT ANY ADIRPT VERTICAL CHANGES EXCEEDING 1/2 INCH AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4 INCH VERTICAL. MAXIMUM SLOPE IN THE DIRECTION OF TRAVEL IS 1:20 AND MAXIMUM CROSS-SLOPE IS 2%. TYPICAL VERT. CHANGES IN LEVELS GREATER THAN 1/2 INCH ARE NECESSARY, THEY SHALL COMPLY WITH THE REQUIREMENTS OF GSD RAMP.
 2. ALL SIDEWALKS ALONG THE ACCESSIBLE ROUTE ARE A MINIMUM OF 4'-0" WIDE, AND THERE ARE NO DROP OFFS OF MORE THAN 4" AT THE EDGE OF THE WALKS OR LANDINGS.
 3. MEDIUM BROOM FINISH ON ALL NEW CONC. WALKS LESS THAN 5% SLOPE. HEAVY BROOM FINISH GREATER THAN 5% SLOPE.
 4. STORAGE OF CONSTRUCTION MATERIAL AND EFFECT OF WORK ON (E) OCCUPIED AREAS SHALL BE APPROVED BY THE LOCAL FIRE AUTHORITY.
 5. IF THERE ARE ANY GATES ALONG THE PATH OF TRAVEL, PROVIDE A SIGN AT THE GATE WITH 1" HIGH CAPITALIZED LETTERS STATING, THIS GATE TO REMAIN IN THE LOCKED OPEN POSITION DURING SCHOOL HOURS, AND AT PUBLIC FUNCTIONS. LETTERING TO BE IN CONTRASTING COLOR TO GATE COLOR.
 6. WALKS, SIDEWALKS AND PEDESTRIAN PATHS SHALL BE FREE OF GRATINGS UNLESS POSSIBLE. IF GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN GRATINGS SHALL BE LIMITED TO 1/2 INCH IN THE DIRECTION TO TRAFFIC FLOW PER CBC SECTION 12081.2, SEE H12UGSO9.
 7. CONTRACTOR AND ARCHITECT TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN CONSTRUCTED WITHOUT BARRIERS.
 8. ELEVATIONS ARE BASED UPON THE CITY OF PITTSBURG.
 9. ALL DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE NORTH UNLESS OTHERWISE NOTED.
 10. PROVIDE 20 PERSONAL RECEIVERS AS A PART OF ASSISTIVE LISTENING SYSTEM. PROVIDE THREE SIGNS "ASSISTIVE LISTENING DEVICES ARE AVAILABLE UPON REQUEST". SIGN LOCATIONS WILL BE DETERMINED BY ARCHITECT.

DESIGN WEST
 CALIFORNIA DESIGN WEST ARCHITECTS, Inc.
 2100 19th Street
 Sacramento, CA 95818
 Phone: (916) 446-2466
 Fax: (916) 446-5118
 web page: ca-dw.com

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PROJECT NAME:

RANGE ROAD MIDDLE SCHOOL
 RANGE ROAD
 PITTSBURG, CA 94565

NEW CAMPUS

PITTSBURG UNIFIED SCHOOL DISTRICT
 2000 RAILROAD AVE.
 PITTSBURG, CA 94565
 CONTRA COSTA COUNTY

FILE NO. 7:

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 OFFICE OF REGULATION SERVICES

APPL. 02-

AT: FLS SS

DATE:

KEY PLAN:

SHEET TITLE:
OVERALL SITE PLAN

JOB NUMBER:
 02-

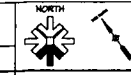
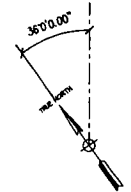
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 JANUARY 30 2006

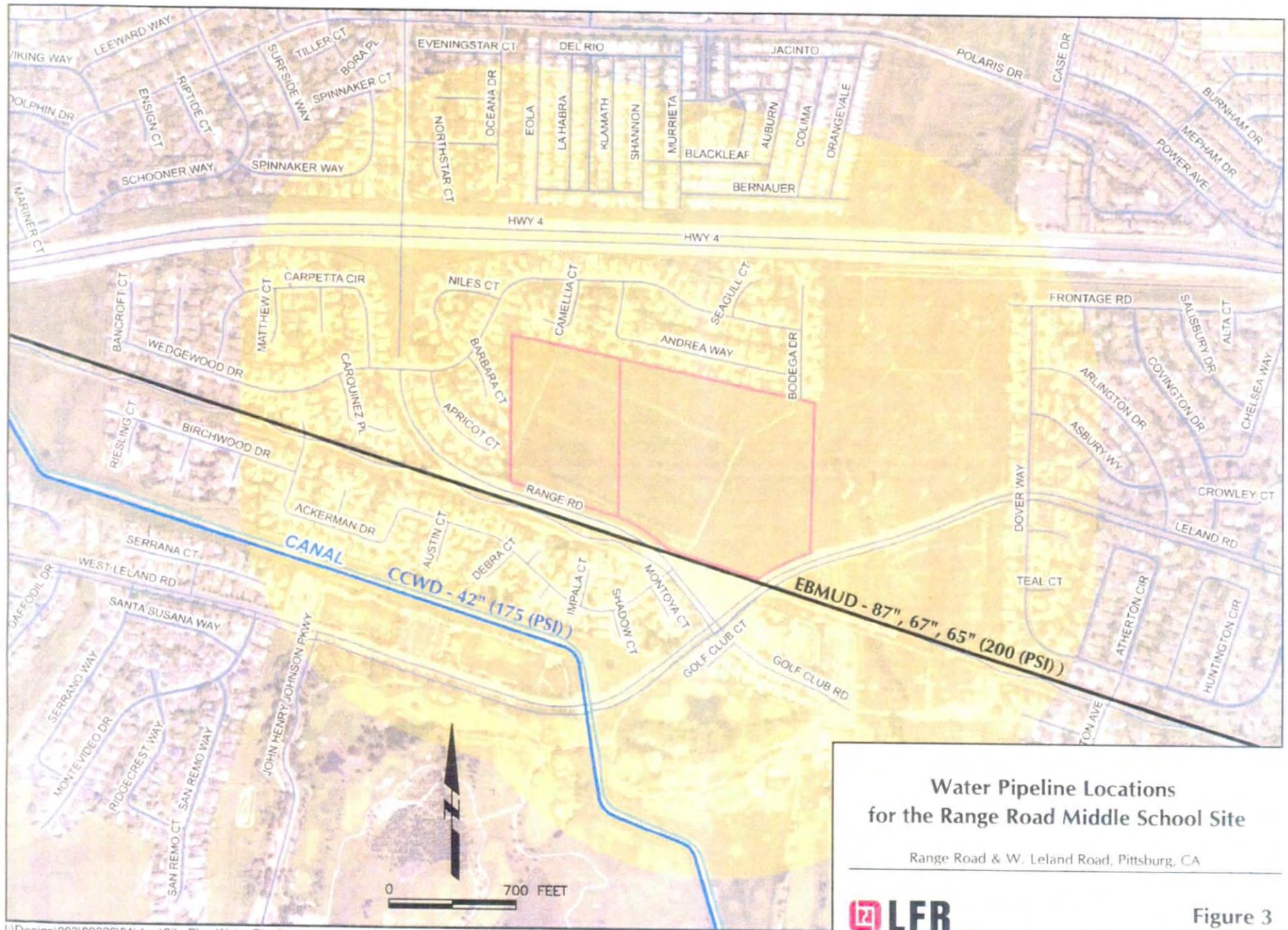
DRAWN BY:
 D15

SHEET NUMBER:
C101

A1 OVERALL DRAINAGE PLAN

1" = 50'-0"





**Water Pipeline Locations
for the Range Road Middle School Site**

Range Road & W. Leland Road, Pittsburg, CA



Figure 3

ATTACHMENT 3

BLAST REQUIREMENTS FOR EXTERIOR GLASS AND WINDOWS



S.M.G CONSULTING

Exterior Wall Consultants – Quality Management

Mr. Douglas G. Wolf
LFR
1900 Powell Street, 12th Floor
Emeryville, California 94608

January 4, 2007

Re: Range Road Middle School, Pittsburg California
Subject: Blast Requirements for Exterior Glass and Windows

Dear Mr. Wolf

Pertaining to the above referenced project, the following comments are based on our peer review of the specification section 08800, two architectural sheets and miscellaneous details as reviewed in the December 15, 2006 meeting.

Window Specifications

As determined the blast force at 200 feet, the nearest window from the gas pipeline is 5- psi. The suggested performance requirements have been from this point.

Horizontal Sliding Window Performance Requirements: The suggested design for aluminum windows are those specified and recommended in AAMA/NWDA 101/I.S.2 – 97. As reviewed in the December meeting, the Pittsburg School districts performance design for the sliding window is HS-HC40. The minimal blast resistance/hazard response for an HC 40 is 4.2 psi. As 200 ft is the nearest area from the pipeline and the wall distance increases, the 4.2-psi is close to the 5-psi. Reducing the manufactures normal frame anchorage spacing could be incorporated. The frames may slightly bend but will not disengage from the substrate; an alternative design criteria suggested would be to increase the windows to an HS-HC50 or HS-AW40; both will meet the design criteria without modification of the anchors.

08800 Glazing Specifications

As discussed there are two methods to comply with the 5-psi criteria.

#1. The currant LOW-E Glass specification calls for both the interior and exterior lite to be annealed. For compliance the interior type of glass of the 1' insulated unit will need to be ¼' laminated. The typical makeup suggested is as follows

Overall thickness of 1 inch with two lites of 1/4 inch glass.

- (1) Exterior lite ¼" annealed. (#2 = ¼" laminated)
- (2) ½" air space. Continuous metal spacer with formed corners and an in-line connector, containing desiccant.
- (3) Interior lite ¼" laminated with 0.030" pvb interlayer
- (4) Primary Sealant: Polyisobutylene applied to the edge of the spacer.
- (5) Secondary Sealant: Silicone.

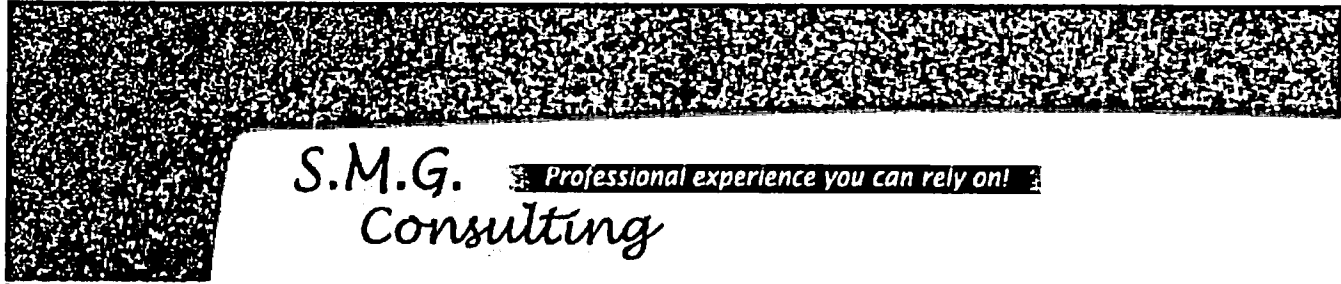
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Range Road Middle School, Pittsburg California
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#2. If cost effective it was suggested to replace the 1/4" exterior annealed glass with the 1/4" laminated. There are two benefits to change both the interior and exterior lite of glass in the 1' insulated units. One being safety during normal school activity and the other is the broken glass will stay in place. The glass staying in place allows time for the new insulated units to be fabricated without the district boarding up the window.

For both the exterior hollow metal storefronts and sliding windows the installation of the 1" insulated units, or the 3/8" laminated glass at the hollow metal storefronts needs to be structurally glazed utilizing silicone sealant at the bedding and face sealant locations. Glazing rabbet needs to be a minimum of 1/2" contact surface between the insulated unit and the glazing frame.

Respectfully Submitted,

Steven Granieri
SMG Consulting



S.M.G. Consulting

Professional experience you can rely on!

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- [Specialties](#)
- [Testing](#)
- [Experience](#)
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S.M.G. Consulting was established to provide the Contractor, Developer and Architect an avenue for independent investigation and consultation. This pertains to the proper detailing/design, product selection, testing and legal testimony of the specified materials as related to the exterior envelope of a building.

With the new technology in system design, the ever changing design and product development and the use of substitutions from those specified, the compatibility pertaining to each, needs to be thoroughly analyzed.

In too many instances the wrong/defective product has been specified, or accepted as a substitute. The involvement of the unqualified subcontractor or the introduction of a bad design or uncertified systems have resulted in the Architect, Contractor or Developer having to face a owner that is dissatisfied because of a non - functional building.

To insure the selection of compatible material, workable detailing and proper installation S.M.G. Consulting can serve as the independent body in:

- ▶ Inspection and Evaluation
- ▶ Design Management
- ▶ Leak Investigation
- ▶ Product Selection
- ▶ Field Testing
- ▶ Quality Control
- ▶ Cost Budgeting
- ▶ Contractor Selection

To verify our capabilities in these areas we have provided a partial list of major projects that we have been involved with. We can also provide a reference list upon request. Services provided by our company will fall within the guidelines of the documents referenced under professional services.

S.M.G. Consulting is committed in providing you, our customer, professional experience you can rely on!

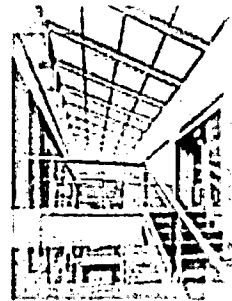
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Professional experience you can rely on!

S.M.G. Consulting is an independent design/inspection firm specializing in investigation, quality management, testing, legal testimony and evaluation of constructions and related industries which make up the exterior building envelope. Our specialization's are as follows:

- ▶ Services and Appointments
- ▶ New Construction
- ▶ Existing Buildings
- ▶ Legal Dispute Resolution



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Services and Appointments:

- ✓ Curtainwalls - Glass and Glazing
- ✓ Design Development
- ✓ Skylights
- ✓ Exterior Insulation and Finish Systems (E.I.F.S.)
- ✓ Joint Sealant
- ✓ Windows
- ✓ Waterproofing Systems
- ✓ Metal Panels and Components
- ✓ Pre-formed Concrete/Dimensional stone/GFRC Panels

New Construction:

- ✓ Specification Preparation
- ✓ Bid Review
- ✓ Material Selection Assistance
- ✓ System Design, Selection and Analysis
- ✓ Budget Costing
- ✓ Quality Management
- ✓ C.P.M. Scheduling

Existing Buildings:

- ✓ Leakage Investigation / Due Diligence Investigations
- ✓ Building Analysis / Seismic Damage Evaluation
- ✓ Development of Remedial Repair Programs
- ✓ Routine Inspections



RILEM 11.4 TEST
"Method of Testing Water Absorption Through Masonry Surfaces"

Legal Dispute Resolution:

- ✓ Investigation - Design Flaws - Material Defects
- ✓ Expert Testimony
- ✓ Development and Costing of Repair Programs
- ✓ Clarification of Existing or Potential Problems

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S.M.G. Consulting has an excellent reputation of completing projects in a professional manner, while controlling costs and keeping the investigation/project within budget.

S.M.G. Consulting has a solid commitment to provide the best quality control and testing services possible and serving the needs of our customers. Our level of professional experience extends not only through the practical theory and study of construction, but can also offer the knowledge gained by the hands on experience in 30 years of installation, design, project management and quality control through all phases of the industry. As the principal of S.M.G. Consulting, the following is a brief resume of my experience.

Steven Granieri
President, S.M.G. Consulting

Salt Lake City, Utah 1968 - 1982

Attended the University of Utah. Worked as field superintendent/quality control manager in the glass and glazing industry. Worked with State Officials developing the apprenticeship testing and quality control program for the state of Utah.

San Francisco, California 1982 - 1989

Worked as project manager/ quality control manager and superintendent for Cobbledick-Kibbe Glass Company.

Major projects are as follows:

1. *San Francisco School of Ballet* - Superintendent.
2. *Dakin Building, Oyster Point* - Superintendent
3. *600 Gateway Building SSF*- Superintendent -Quality Control
4. *San Francisco Hilton Hotel* - Superintendent-Quality Control
5. *San Francisco Marriot Hotel* - Project Manager - Design Team Leader - Quality Control

San Francisco, California 1989 - 1994 Worked as project manager/ quality control manager for EFCO Corporation.

Major projects are as follows:

1. *Resort at Squaw Creek, Squaw Valley*- Project Manager - Design Team Leader - Quality Control
2. *Federal Home Loan, San Francisco* - Project Manager - Design Team Leader - Quality Control
3. *Sun Microsystems, Menlo Park* - Project Manager - Design Team Leader - Quality Control
4. *GSA Federal Building, Oakland* - Project Manager - Design Team Leader - Quality Control
5. *Sacramento Municipal Unified District* - Project Manager - Design Team Leader - Quality Control

San Francisco, California 1995 to Present. Started S.M.G. Consulting.

Major projects are as follows:

- ✓ **La Jolla village Towers, San Diego** - Walsh Construction - Merlin Barth Architect 20 Story Condominium - New Project -Design/ Specification -EIFS Quality Control

- ✓ **Embarcadero Center - Pacific Properties, L.P. 4** - 40 Story Office Buildings - Sealant Failure - Window Leakage -Precast Deterioration

- ✓ **Buck Center for the Aging** - Walsh Construction 3 Story Medical Development Building - New Project - GFRC Design Review Waterproofing/ Quality Control

- ✓ **Ashtech 1170 Kifer, Sunnyvale** - Mark/Okubo Construction Management 2 Story Concrete Tilt-Up - Window Failure - Sealant Failure

- ✓ **Metro Towers, San Mateo** - Glaspy & Glaspy Attorneys at Law Litigation of 20 Story Office Building - Design/Product Failure - Curtainwall Failure Sealant Failure - Precast/GFRC Failure

- ✓ **General Sherman (Sacramento)** - Metro V - Hoshida & Reyes Attorneys at Law Litigation of 3 Story Office Building - Design/Product Failure -Deck Waterproofing Failure Sealant Failure

- ✓ **The Church Divinity School of the Pacific, Berkeley** - S.O.M Architect 4 Story Dormitory - Brick/Concrete/Window Leakage - Sealant Failure

- ✓ **John Swett Elementary School** - Consulting Firm for San Francisco Unified School District Four Story School - Sealant Failure - Window/Curtainwall Leakage

- ✓ **Peter Yorke Towers, SF** - Stolti/PCL Construction - Anshen and Allen Architect 19 Story Condominium - Expansion Joint Failure - Deck Failure -EIFS & Sealant Failure

- ✓ **Roosevelt Middle School** - Consulting Firm for San Francisco School District. 3 Story School - Quality Control of Retro-Fit Window/Curtainwalls

- ✓ **Downtown High School** - Consulting Firm for San Francisco School District 4 Story School - Glass Block Failure - Design Failure

- ✓ **Nike World Campus** - Portland Oregon - B & B Glass New Construction - 6 Five Story Buildings - Design & Inspection

- ✓ **Bishop Ranch, San Ramon, California** - Sunset Development Company Four Three Story Office Buildings - Sealant Failure - Window/Curtainwall Leakage GFRC Design Failure

- ✓ **2010 N. 1st Street, San Jose, California** - TishmanSpeyer Properties Five Story Office Building - Sealant Failure - Window/Curtainwall Leakage Parapet Leakage - GFRC Design Staining Investigation

- ✓ **Rotary Plaza, So. San Francisco, California** - Eugene Burger
Management 4 Story Retirement Facility - Contract Documents - Quality
Control of Retro-Fit Windows

- ✓ **Tenderloin Elementary School** - Consulting Firm for San Francisco
School District. 3 Story New School - Storefront - Windows - Quality
Control

- ✓ **Lincoln High School** - Consulting Firm for San Francisco School
District. 4 Story School - Quality Control of Retro-Fit
Window/Curtainwalls

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APPENDIX A

STAGE 2 PIPELINE RISK ANALYSIS

ATTACHMENT 2

RISK MANAGEMENT PLAN (RMP)

**Risk Management Plan
Range Road Middle School
Range Road and West Leland Road
Pittsburg, California**

Prepared for
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, CA 94565

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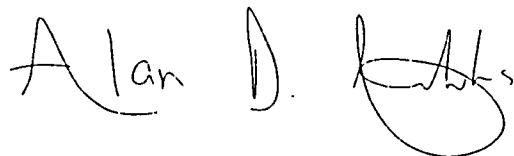
7.0 REFERENCES6

FIGURES

- 1 Evacuation Route Map and Assembly Area
- 2 Pipeline Location and Approximate Setback Distances for the Range Road Middle School Site
- 3 Water Pipeline Locations for the Range Road Middle School Site

CERTIFICATIONS

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an LFR California Registered Geologist.



1/15/2007

Alan D. Gibbs, R.G., C.HG., R.E.A. II
Principal Hydrogeologist
California Registered Geologist (4827)

Date

1.0 INTRODUCTION

LFR, Inc. (LFR) has prepared this Risk Management Plan (RMP) on behalf of Pittsburg Unified School District (PUSD) for the proposed Range Road Middle School in Pittsburg, California ("the Site"; Figure 1). The Site is located northwest of the intersection of Range Road and West Leland Road.

1.1 Purpose

Sections of ten pipelines, including six natural gas pipelines and four water pipelines, are located within 1,500 feet of the Site. The purpose of the RMP is to outline essential requirements for public/private utility company notification to school officials before excavation or maintenance activities take place on the pipeline segments within 1,500 feet of the school boundary and describe emergency evacuation procedures to be followed in the event of an accidental pipeline release within 1,500 feet of the Site.

This RMP contains the following:

- a description of the site background
- a summary of the pipeline risk analysis conducted for the nearby pipelines
- a description of the school notification process
- emergency evacuation procedures

The risk management activities and protocols specified in this RMP are based on a current understanding of site conditions and the proposed land use. If environmental conditions are found to differ from those described herein, then risk management protocols may have to be modified to accommodate the changed conditions. If changed environmental conditions are encountered, the City of Pittsburg, the PUSD, or other concerned agencies should be notified, as appropriate. LFR will propose adjustments to the risk management protocols, if warranted, based on changed environmental conditions.

2.0 SITE AND VICINITY DESCRIPTIONS

2.1 Site Description

The Site is located on the western side of West Leland Road and the northern side of Range Road in Pittsburg, California. The Site is currently undeveloped land. PUSD's plans for the Site include constructing buildings for the proposed Range Road Middle School.

2.2 Surrounding Land Use

Properties surrounding the Site consist predominantly of residential developments. Highway 4 is located approximately 501 feet north of the Site.

The ten pipelines located within 1,500 feet of the Site are shown in Table 1 and identified in Figures 2 and 3.

Operator	Pipeline Reference	Contents	Pressure (maximum) (psig)	Diameter (inches)
PG&E	SP3(a) SP3(b)	Natural Gas	600	26
	191	Natural Gas	720	24
	191-1(a)	Natural Gas	390	20
	191-1(b)	Natural Gas	720	20
	191-1(c)	Natural Gas	390	24
EBMUD	Mokelumne Aqueducts	Raw Water	200	87
		Raw Water	200	67
		Raw Water	200	65
CCWD	MPP	Treated Water	175	42

Notes:

PG&E = Pacific Gas and Electric Company EBMUD = East Bay Municipal Utility District
 CCWD = Contra Costa Water District psig = pounds per square inch-gauge

3.0 BACKGROUND

Based on the proximity of the pipelines listed in Table 1 to the Site, LFR performed a risk analysis for the natural gas pipelines in accordance with the California Department of Education "Proposed Standard Protocol for Pipeline Risk Analysis," dated May 2002 (the May 2002 Protocol) and a risk analysis for the water pipelines in accordance with the "California Department of Education Proposed Standard Protocol for Pipeline Risk Analysis, Revised Draft 2" dated September 2005 (the September 2005 Protocol).

These analyzes identified that all six of the natural gas pipelines would have an impact on the Site and a significant health and safety threat would result from a hypothetical

release and explosion or pool fire from the PG&E SP3(a) natural gas pipeline. Due to the surrounding topography, water from a leak or rupture of one of the water pipelines would most likely not accumulate on the Site in a way that would pose imminent health and safety risks to the Site population.

The May 2002 Protocol identifies commonly adhered to risk control measures. Title 49 CFR, Part 192, defines prevention and mitigation measures for many different types of pipeline leaks. An operator's practice must conform to the minimum requirements of applicable federal or state regulations. In practice, most pipeline operators, including PG&E and KMEP, adhere to these requirements.

Codes, standards, regulations, and operators' own best management practices commonly comprise prevention activities. Specific prevention activities generally focus on specific causes of pipeline failures. For example, prevention measures associated with excavation damage include pipeline markers, patrols, and on-call notifications.

For the pipeline risk analysis, two types of accidental release scenarios were assessed. The first type of scenario assessed was a leak from a 1-inch-diameter hole in a pipeline. Such a leak could result from various incidents, including accidents during excavation. This is the most common type of release event and is evaluated in all pipeline assessments. The second scenario was a full pipeline rupture. A full pipeline rupture is less likely and is usually only considered if the subject site is within an active seismic region or may be subject to potential landslide or ground erosion.

Geologic or geotechnical conditions that could affect the performance of a pipeline are related to ground movement such as landsliding, fault rupture, and/or ground shaking. Based on the Site's location only a low level of concern for the potential of a full rupture to the pipeline exists because regional seismic hazards are low in the Pittsburg area.

For this site, it is far more likely that only a small line leak or small gas leak would actually occur due to events resulting in an accidental release. The risk mitigation measures for the pipeline risk analysis are therefore focused on the higher likelihood and prevention of a leak from a 1-inch-diameter hole in a pipeline.

In the pipeline risk analysis report, LFR recommended mitigation measures. These measures are usually preengineered systems, procedures, and practices that reduce the consequences of a pipeline product release. Emergency preparedness and emergency response plans are among the basic elements of mitigation.

4.0 POTENTIAL ISSUES OF CONCERN

The following issues of concern have been identified from information obtained during LFR's pipeline risk analysis:

- future excavation or maintenance activities on segments of the pipelines within 1,500 feet of the school boundary that could result in damage to the pipelines
- an accidental release due to a leak in the natural gas pipelines
- a full pipeline rupture in the natural gas pipelines

4.1 Future Excavation or Maintenance Activities

Exposure of the pipeline segments within 1,500 feet of the school boundary to conduct maintenance activities or other work increases the probability of an accidental release and possible impact to the Site. Therefore, future excavation or maintenance activities have been identified as a potential issue of concern.

4.2 Accidental Release

An accidental release from the segment of the natural gas pipeline within 1,500 feet of the school boundary could have a possible impact to the Site. Therefore, an accidental release from this pipeline has been identified as a potential issue of concern.

4.3 Rupture

A rupture from the segment of the pipelines within 1,500 feet of the school boundary could have a possible impact to the Site. Therefore, a rupture from the pipelines has been identified as a potential issue of concern.

5.0 RISK MANAGEMENT

This section describes actions to be taken with regards to the natural gas pipelines located across Range Road and West Leland Road from the Site.

5.1 Future Excavation or Maintenance Activities

Prior to excavation or maintenance activities on pipeline segments within 1,500 feet of the school boundary, PG&E, KMEP, other pipeline owners and/or operators, utility owners, or street maintenance workers will notify PUSD school officials of the pending work. The following school officials are to be notified:

Mr. Mark Bonnett
Assistant Superintendent
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, California 94565
Phone: (925) 473 - 4235

Mr./Ms. _____
Principal
Range Road Middle School
____ Range Road
Pittsburg, California
Phone: (925) ____ - ____

Excavation and maintenance activities on pipeline segments within 1,500 feet of the school boundary should be performed before or after school hours, or when the school is not occupied (weekends, holidays), if possible. The above noted school officials should be contacted to establish school hours.

5.2 Accidental Release and Rupture

In the event of an accidental pipeline release or rupture on a pipeline segment within 1,500 feet of the Site, the principal of Range Road Middle School must be notified immediately. If the Principal is not available, then immediate notification should be left with the designated school office personnel with the authority to also take immediate action to evacuate the school. Pertinent information, including location of the release or rupture, extent of the release or rupture, time when the repairs will be completed, and need to evacuate the school, should be provided to the school officials.

In the event that the pipeline owners and/or operators recommend that the school be evacuated, the school's Emergency Evacuation Plan should be implemented.

All occupants of the school buildings, including students, teachers, school staff, visitors, and others, will assemble on the north end of the track located on the northeastern side of the school campus (see Figure 1). Everyone must stay in the assembly area until notified by a senior school official (i.e., a district director, the school principal) to return to the buildings or leave the Site.

6.0 LIMITATIONS

This work was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The observations and conclusions presented in this letter are professional opinions based on the scope of activities, work schedule, and information obtained through the work described herein. Opinions presented herein apply to site conditions existing at the time of our work and cannot necessarily be taken to apply to site conditions or changes that we are not aware of or have not had the opportunity to evaluate. It must be recognized that conclusions drawn from these data are limited to the amount, type, distribution, and integrity of the information collected at the time of the assessment and the methods used to collect and evaluate the data; a full and complete determination of environmental risks cannot be made. Although LFR has taken steps to obtain true copies of available information, we make no representation or warranty with respect to the accuracy or completeness of this information.

7.0 REFERENCES

California Department of Education. 2002. Proposed Standard Protocol for Pipeline Risk Analysis. May.

California Department of Education. 2005. Proposed Standard Protocol for Pipeline Risk Analysis, Revised Draft 2. September.

LFR. 2006. Stage 2 Pipeline Risk Analysis of the Natural Gas Pipelines and Water Pipelines located within 1,500 feet of the proposed Range Road Middle School site, Pittsburg, California. September 30

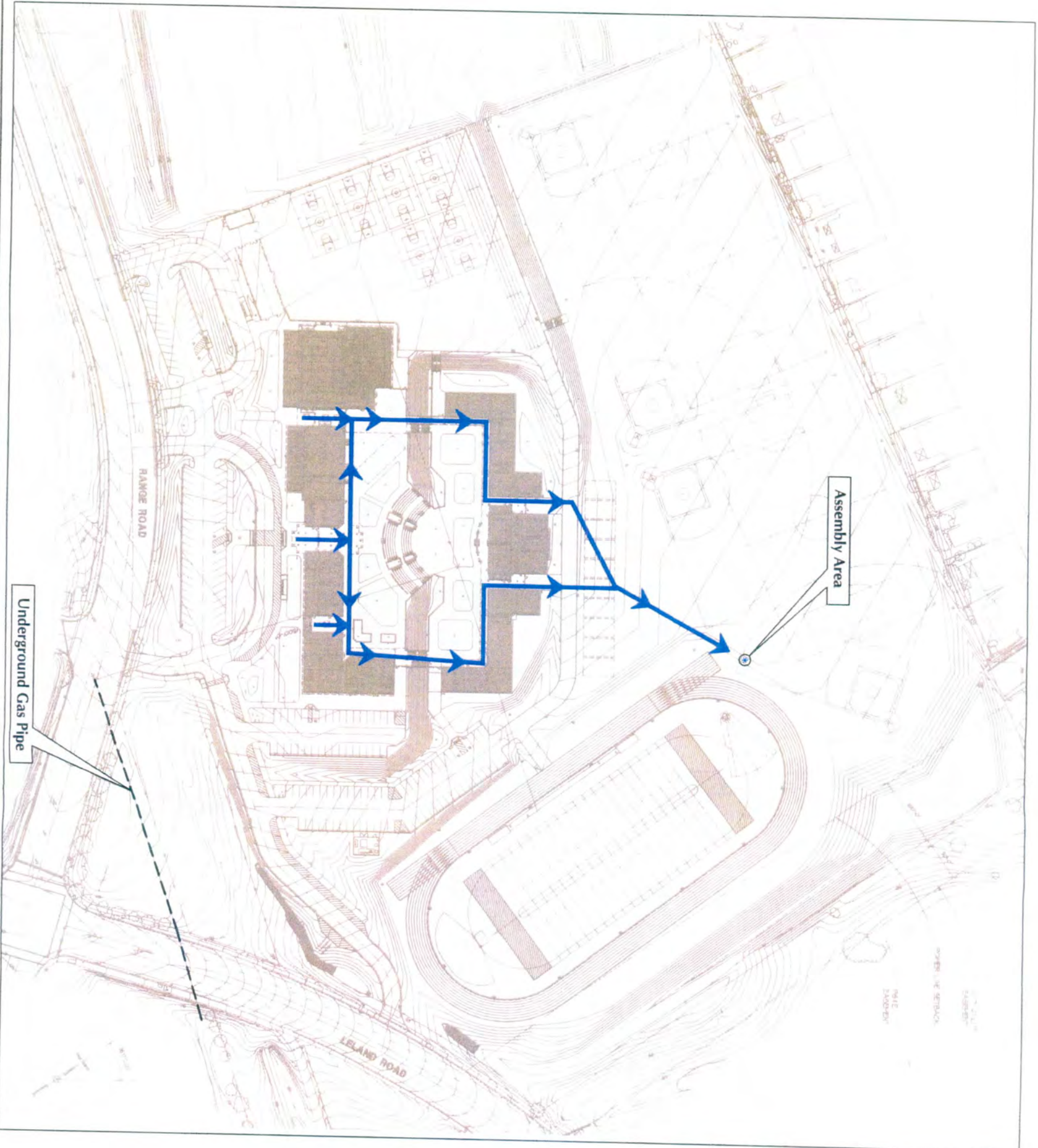
EMERGENCY EVACUATION PLAN

(Accidental Pipeline Release and Rupture)

1. Leave building in a quiet and orderly manner. WALK! - DO NOT RUN!!
2. Maintain order and take roll when reaching assigned staging area, as above.
3. Proceed to assembly area behind setback noted on attached Site Plan.
4. Stand quietly in assembly area until notified by a senior school official to return to the buildings or leave the site.
5. Return to the classroom in a quiet and orderly manner.
6. If the fire alarm sounds during recess or lunch, go quietly to your assigned area.

EVAC
PLAN

ATCH
2



Assembly Area

Underground Gas Pipe

RANGE ROAD

LELAND ROAD

DATE
3/20/07
DRAWN BY
ZACHARY



SOURCE: CALIFORNIA DESIGN WEST ARCHITECTS, INC.

Evacuation Route Map and Assembly Area

Range Road and W. Leland Road, Pittsburg, CA



Figure 1

