Applied Consultants
1941-A Friendship Dr
El Cajon, CA 92020
joshua@applied-consultants.com

APPLIED CONSULTANTS
geotechnical & forensic engineering
www.applied-consultants.com

INVOICE

BILL TO
SD1400.25_1177 Muirlands
Vista Way- Visual OSE Report

INVOICE # 6417
DATE 10/28/2025
DUE DATE 10/28/2025
TERMS Due on receipt

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
10/28/2025	**Fixed Fee**	Visual on site evaluation	1	1,500.00	1,500.00

BALANCE DUE **$1,500.00**

Pay invoice

APPLIED CONSULTANTS
geotechnical & forensic engineering

1941-A Friendship Drive
El Cajon, CA 92020
TEL (619) 258-9000
www.applied-consultants.com

October 30, 2025

Gregg Haggart
Via E-mail – gregghaggart@yahoo.com

Subject: Visual On-Site Evaluation (OSE) Report for the Subject Property Located at 1177 Muirlands Vista Way, La Jolla, CA 92037

To Gregg Haggart,

In accordance with your request we have inspected the residence located at the above-mentioned address. The purpose of our visual on site evaluation was to identify structural or geotechnical issues with regards to the existing structure and provide recommendations for repair of the structurally deficient members if present.

A professional engineer from our firm inspected this residence on October 28, 2025 and noted the following:

1. The residence is a single story, wood framed structure, supported by a raised wooden floor foundation system, and was constructed in 1966.

2. Site topography is a graded hillside. The subject property and surrounding area were originally a south facing slope. Descending slopes are located along the front of the residence. Ascending slopes are located to the rear of the residence.

3. We reviewed the Geologic Map of the San Diego 30'x60' Quadrangle for the subject property. We noted the following:
   a. The subject property is mapped as Ta – Ardath formation
   b. Known landsides are mapped around the subject property and associated with Ardath formation.

4. The City of San Diego Geology Department classifies the property as:
   a. Geologic Hazard Category 25 – Neutral or favorable geologic structure.

5. The focal point was the damages along the south foundation wall.

6. From the exterior large grout lines were noted along the south wall.

7. The southeast room slopes substantially towards the south exterior wall.

8. Confined planters were noted along the south exterior wall.

9. The residence has a good condition drainage system. The majority of the residence rain

gutters and down drains are tightlined into a subsurface drainage system.

10. Multiple interior plaster cracks were noted around the residence.

11. The irrigation manifold is located adjacent to the residence.

12. Efflorescence and water damage was noted on the site retaining walls.

13. We noted the following from the residence crawlspace:

    a. Substantial sections of the foundation system were inaccessible due to duct work and lack of clearance. We were able to evaluate the south foundation wall. We could not evaluate the entirety of the foundation system.
    b. Multiple vertical and horizontal cracks in the concrete foundation walls were noted.
    c. Wood shims were noted at the foundation wall to sill plate connection.
    d. Ad hoc wood beams and posts were noted along the south foundation wall. The wood posts were supported by either unembedded precast footings or a wood beam placed on grade.

Subject property. Descending slope located to front of residence

Confined planter with vegetation and irrigation adjacent to south foundation wall

Confined planter with vegetation and irrigation adjacent to south foundation wall

Grout damage and cracked brick fascia

Large grout along south brick fascia

Plaster cracks

Plaster cracks

Irrigation manifold adjacent to residence

Water damaged site retaining walls

Foundation wall cracks

Modern precast footing with no embedment

Wood post and beam supported by wood block along south foundation wall

Wood shims at sill plate to foundation wall connection

Foundation wall cracks

Foundation wall cracks

CONCLUSIONS

The residence is 59+ years old and the majority of the concrete foundation system appears to be part of the original construction. The concrete foundation system has been subject to general aging and historical water to concrete contact, typical of aged concrete structures. Based upon the severity of the noted damages, it is our opinion that the concrete foundation system can still support structural loads. Client should be aware that residential concrete has a typical lifespan of 50-100 years.

We were unable to evaluate the entire crawlspace due to inadequate access.

The most probable assumption is that the soils underlying the southern foundation wall have settled. The unconventional posts and beams and wood shims were installed to accommodate floor deformation. The most probable cause of the differential soil settlement is surface drainage or a wet utility line induced soil settlement.

The depth to competent soils is unknown. We recommend that pipe piles be installed along the southern section to provide supplemental support.

RECOMMENDATIONS

1. The foundation system and retaining walls shall be periodically evaluated.

2. Access to the entirety of the crawlspace shall be established. Additional points of entry may be required. The entirety of the crawlspace shall be reevaluated when proper access is established.

3. The vegetation and confined planter around the residence shall be removed. No vegetation shall be placed within five feet of the structure. We recommend a concrete apron around the entirety of the residence.

4. All foundation wall cracks less than ¼" shall be repaired in conformance with Appendix B: General Recommendations for Concrete Repair.

5. The foundation system shall be repaired or retrofitted to conform with Appendix C – General Recommendations for Raised Wooden Floor Foundation Systems.

6. All dryrotted wood members shall be removed and replaced.

7. The separation between the sill plate and foundation wall shall be filled with dry pac mortar.

8. The southern foundation wall shall fasten to the sill plate with URFP @ 5'o.c.

9. Pipe piles shall be installed along the southern foundation wall at 8'o.c. See Appendix F.

10. Maintenance of the rain gutters shall be performed.

11. Irrigation around the subject building shall be minimized.

12. All wet utility lines (sewer, water, irrigation) shall be checked for leaks and repaired as necessary. The irrigation manifold shall be periodically checked for leaks.

13. Crawlspace ventilation shall be improved to conform to the California Building Code Requirements.

14. In general, site drainage shall be improved such that the grounds surrounding the residence slope a minimum of 5% positively away from the residence. Runoff shall be directed toward a public storm water collection system. Flatwork may be used in lieu of grading. Confined planters shall be remove and replaced with a sloping soils surface, or a sidewalk.

The opportunity to prepare this report is greatly appreciated. If you have any questions please feel free to call our office at (619) 258-9000.

Sincerely,

_____

Joshua E. Devera PE 77618
President

Appendix B
General Recommendations for Concrete Repair

1) Simpson Epoxy Schedule:

Size of Foundation Wall Crack	Simpson Epoxy
Hairline (.002" to ¼" in width	CI-LV
Fine to medium (1/64" – ¼")	CI-LV FS
Medium width cracks (3/64" – ¼") Wall cracks on both sides.	CI-GV

2) Preparation of the foundation wall crack for injection:

Clean the crack and the surface surrounding it to allow the paste-over to bond to sound concrete. At a minimum, the surface to receive paste-over should be brushed with a wire brush. Oil, grease or other surface contaminant must be removed in order to allow the paste-over to bond properly. Take care not to impact any debris into the crack during cleaning. Using clean, oil-free compressed air, blow out the crack to remove any dust, debris or standing water. Best results will be obtained if the crack is dry at the time of injection. If water is continually seeping from the crack, the flow must be stopped in order for epoxy injection to yield a suitable repair. Other materials such as polyurethane resins may be required to repair an actively leaking crack.

For many applications, additional preparation is necessary in order to seal the crack. Where a surfacing material has been removed using an acid or chemical solvent, prepare the crack as follows:

1) Using clean, compressed air, blow out any remaining debris and liquid.
2) Remove residue by high-pressure washing or steam cleaning.
3) Blow any remaining water from the crack with clean compressed air.

If a coating, sealant or paint has been applied to the concrete, it must be removed before placing the paste-over epoxy. Under the pressure of injection, these materials may lift and cause a leak. If the surface coating is covering the crack, it may be necessary to route out the opening of the crack in a "V" shape using a grinder in order to get past the surface contamination.

3) Sealing of the crack and attachment of Injection Ports:

a) To adhere the port to the concrete, apply a small amount of paste-over around the bottom of the port base. Place the port at one end of the crack and repeat until the entire crack is ported. As a rule of thumb, injection ports should be placed 8" apart along the length of the crack.

b) Using a putty knife or other paste-over tool, generously work paste-over along the entire length of the crack. Take care to mound the paste-over around the base of the port to approximately 1/4" thick extending 1" out from the base of the port and to work out any holes in the material. It is recommended that the paste-over should be a minimum of 3/16" thick and 1" wide along the crack. Insufficient paste-over will result in leaks under the pressure of injection. If the crack passes completely through the concrete element, seal the back of the crack, if possible. If not, injection epoxy may be able to run out the back side of the crack, resulting in an ineffective repair.

c) Allow the paste-over to harden before beginning injection. Note: CIP-LO and ETR are a fast cure and when manually mixed may harden prematurely if left in a mixed mass on the mixing surface while installing ports. Spreading paste-over into a thin film (approximately 1/8") on the mixing surface will slow curing by allowing the heat from the reaction to dissipate.

4) Injection Procedure

a) Follow cartridge preparation instructions on the cartridge label. Verify the material flowing from the Opti-Mix® mixing nozzle is a uniform and consistent color. Note: Crack-Pac dispenses through hardener tube and does not require Opti-Mix mixing nozzle.

b) Attach the E-Z-Click™ fitting to the end of the nozzle by pushing the tubing over the barbs at the end of the nozzle. Make sure that all ports are pushed in to the open position.

c) Attach the E-Z-Click™ injection fitting to the first E-Z-Click™ port until it clicks into place. Make sure that the heads of all the ports are pushed in to the open position. In vertical applications, begin injection at the lowest port and work your way up. In a horizontal application start at one end of the crack and work your way to the other end.

d) Inject epoxy into the first port until it will no longer flow into the crack. If epoxy shows at the next port and the first port still accepts material, close the second port and continue to inject into the first port until it accepts no more epoxy. Continue closing ports where epoxy appears until the first port refuses epoxy. When the first port reaches the point of refusal, brace the base of the port and pull out gently on the head of the port to close it. Pulling too hard may dislodge the port from the surface of the concrete, causing a leak. Depress the metal tab on the head of the E-Z-Click fitting and remove it from the port.

e) Go to the last port where epoxy appeared while injecting the first port, open it, and continue injection at this port. If the epoxy has set up and the port is bonded closed, move to the next clean port and repeat the process until every portion of the crack has refused epoxy.

f) While this method may appear to leave some ports uninjected, it provides maximum pressure to force the epoxy into the smaller areas of the crack. Moving

to the next port as soon as epoxy appears will allow the epoxy to travel along the wider parts of the crack to the next ports rather than force it into the crack before it travels to the next ports.

5) Where crack continues through backside of crack:

    a) Backside of crack shall be sealed prior to filling with epoxy. We recommend Simpson Paste overs – CIP-LO

Appendix C
General Recommendations for Raised Wooden Floor Foundation System

1. Elements of the foundation system shall be inspected and performed by a qualified foundation contractor. Defective, damaged or improperly installed elements shall be adjusted, or removed and replaced.

2. All posts shall be pressure treated and have minimum size of 4x4. All posts shall be centered with their respective concrete pier. All posts shall have positive connection at post to footing and post to girder connections.

3. All posts shall be supported by concrete piers with minimum dimensions of 12" x 12" firmly embedded into competent soils. Minimum embedment depth is twelve inches.

4. All girders shall be a minimum of 4" x 6" and posts shall be a minimum of 4" x 4". Maximum spacing of the posts and piers shall be 5 feet. Particularly, the shifting and deteriorated piers shall be replaced.

5. All elements of the post and pier system shall be positively connected with clips, straps and tees.

    a. Simpson Adjustable Post Cap – APC – for post to girder connections
    b. Simpson Medium Strap Tie – MSTA21 – girder to girder connections
    c. Simpson Adjustable Post Base – ABA – Post to existing footing connections

6. For single story floor joists, only supporting floor loads the, floor joists schedule shall conform to the following:

Member Size	O.C. Spacing	Floor Joists
2x6	12"	10' - 9"
	16"	9'-9"
	24"	8'-1"
2x8	12"	14'-2"
	16"	12'7"
	24"	10'-3"
2x10	12"	17'-9"
	16"	15'-5"
	24"	12'-7"
2x12	12"	20'-7"
	16"	17'-10"
	24"	14'-7"

Appendix F
General Recommendations for Pipe Piles

1. Each pipe pile shall be mechanically driven with a pneumatic or hydraulic hammer through fill and/or unconsolidated, natural soils to refusal in dense, natural soils or bedrock. Pipe piles shall be driven within 5 inches horizontally of the existing footings: Pipe piles may be inclined up to 10 degrees from vertical in order to minimize the distance between the pipe pile and the footing. Pipe pile driving refusal is defined as 1/8 inch or less ground penetration in 10 minutes using a 90-pound pneumatic jack hammer.

2. If pipe piles meet refusal at a depth less than 3 feet below the bottom of the pile cap excavation the Engineer shall be consulted for further direction.

3. If the refusal depth of two adjacent pipe piles varies by more than 3 feet the Engineer shall be consulted regarding the advisability of driving an additional pipe pile adjacent to the shorter pipe pile.

4. A driving log showing refusal depth and driving time for each pipe pile shall be recorded and provided for review. Refusal depths shall be measured from the ground surface. The driving log shall also reflect the loads to which the pipe piles were tested.

5. Pipe piles shall be individually load tested against the existing footings using a 12 ton or greater hydraulic jack with a calibrated pressure gauge. Each pipe pile shall be load tested to 18,000 pounds for a minimum period of 1 hour. If the jack gauge pressure drops below 18,000 pounds during load testing the pile shall be redriven to refusal and load tested again.

6. If the weight of the building is insufficient to provide a test load of 18,000 pounds, and/or if footing damage appears likely from jacking, the test load may be reduced by the Engineer.

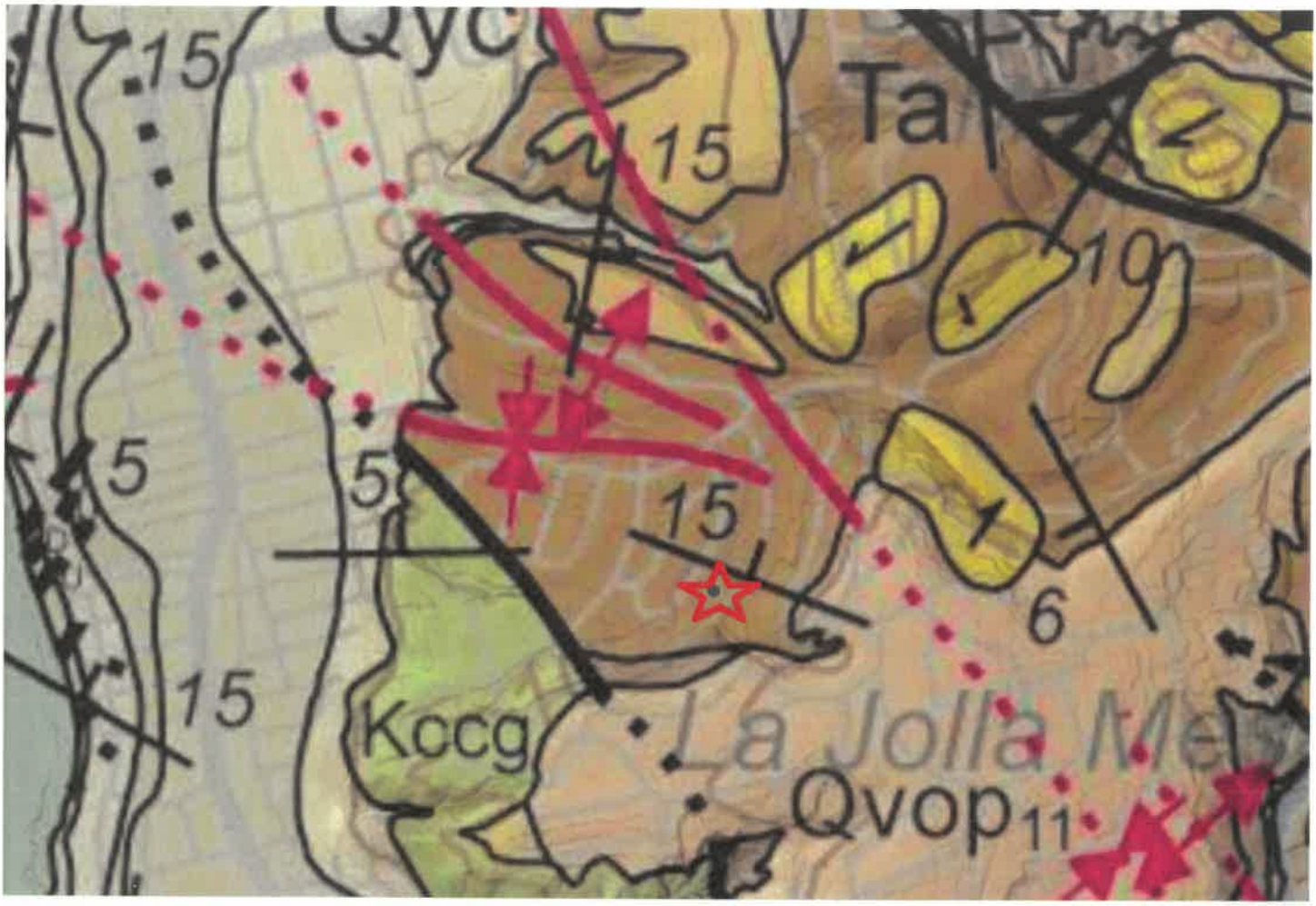
7. In certain clay soils the jacking pressures may continue to drop during testing even though the driving refusal specifications were met. Should this occur, the Engineer shall be contacted and requested to provide additional guidance.

8. After testing of all of the piles the contractor shall attempt to raise the foundation to a more level condition prior to replacing the jacks with appropriate steel spacers. In order to avoid suspending the portions of the footings beyond the underpinned areas the amount of jacking at the end piles is to be limited to that which is necessary to transfer the foundation loads to the pipe piles. The Homeowner should be advised that this jacking process will cause flexing of the wood framing and related opening and/or closing of cracks in the interior walls and ceiling and in stucco siding. Some change in the squareness of door frames is also to be expected. The repair contractor is expected to monitor these factors during the jacking process and consider these factors along with elevations measurements in determining the optimum amount of jacking.

9. The portions of the existing foundation which are to be supported by the pipe piles should be strengthened by installing reinforced concrete grade beams. The grade beam shall be a minimum of 18 inches high and shall extend a minimum of 12 inches below the bottoms of the original footings. The grade beams shall be a minimum of 12 inches wide and shall extend a minimum of 6 inches horizontally underneath the original footings. The grade beams shall have two continuous #5 rebars 3 inches above the bottom and two 3 inches below the top. The horizontal reinforcing steel shall be continuous where passing through the pipe pile pits. The grade beams shall be doweled into the existing footings at 2 foot intervals with #4 rebars epoxied into the original footings with high strength epoxy adhesive. The rebar dowels shall extend a minimum of 6 inches into the footings. The grade beams and the concrete pile caps which encase the steel jacking pads and spacers shall be monolithic (placed as a single pour).

10. It will be necessary to remove the concrete entry stoop and the north portion of the garage slab in the work areas in order to install the pipe piles. The replacement entry stoop and garage slab should be doweled into the foundation with rebar. The rebar dowels shall extend a minimum of 6 inches into the foundation. The concrete pile caps shall be placed separately from the replacement flatwork and shall not be monolithic with the replacement flatwork.

11. Following completion of the pipe pile installation, the soil in the work areas should be graded so that the soil slopes away from the foundation and water drains freely to the street or to another proper drainage discharge area. When grading the soil care must be taken to keep the soil level well below the top of the foundation wall to prevent possible moisture intrusion into the wall assembly and deterioration of the wood framing. In newly constructed homes the soil level must be a minimum of 6 inches below the tops of foundation walls, however, this may not have been required at the time of construction.


15
Qyc
15
Ta
10
5
5
15
6
15
Kccg
La Jolla Me
Qvop
11

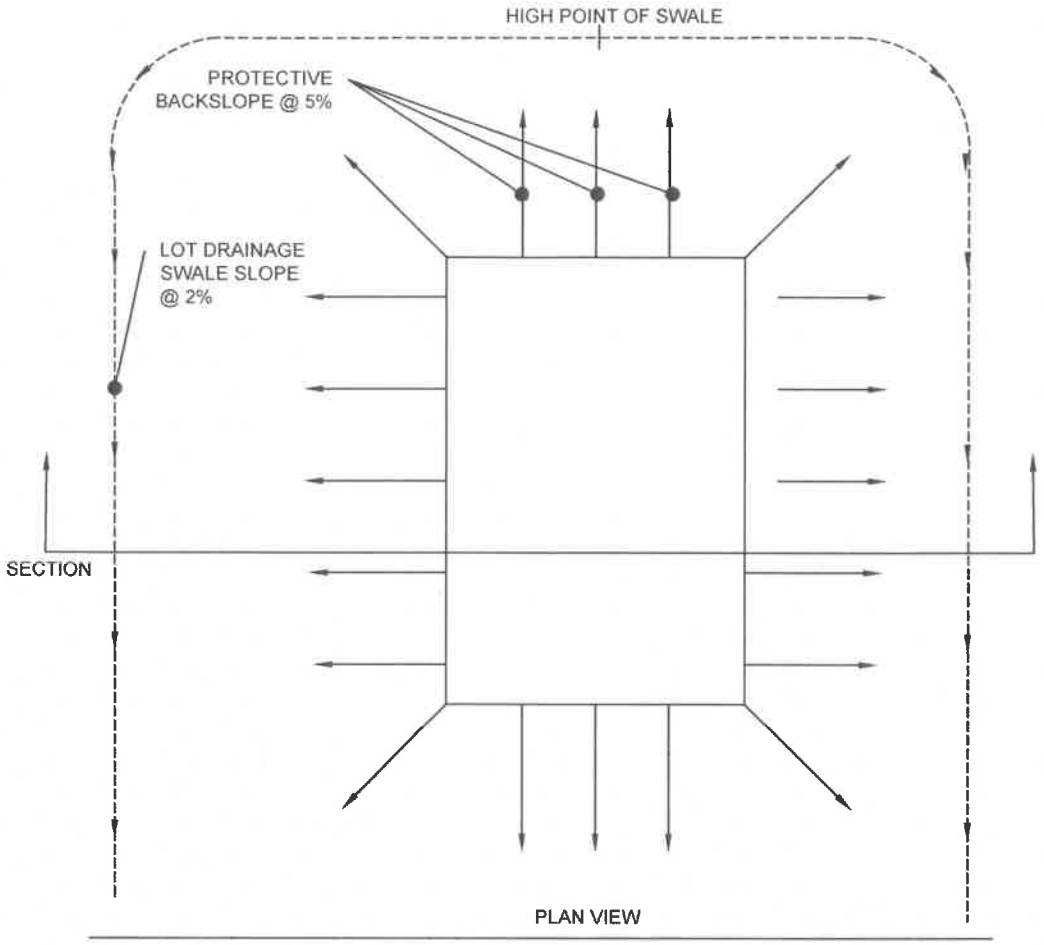
nfo

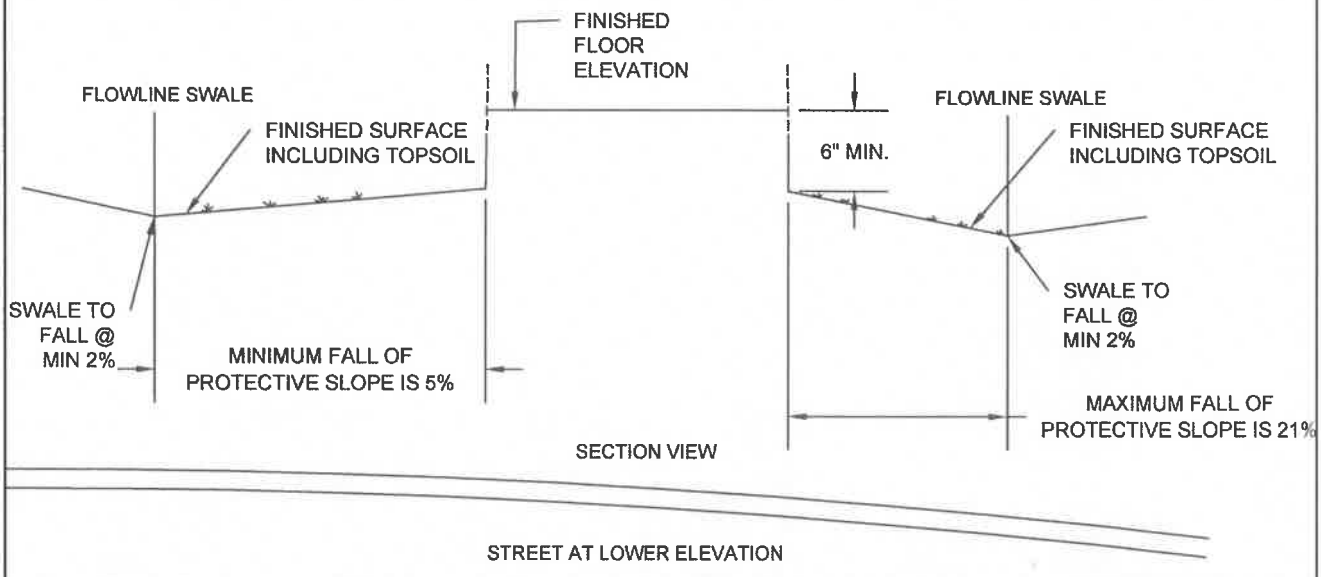
Geology and Soils

Alquist-Priolo Earthquake Fault Zone	No: None
Earthquake Fault Buffers	No: None
Geologic Hazard Category	Yes: 25
Elevation Contour 5 Feet (1999)	Min: 365 Max: 405
Slopes 25% or Greater (1999)	Yes

Hydrology

Watershed	MISSION





APPLIED CONSULTANTS
environmental geology & engineering

RESIDENTIAL DRAINAGE TYPICAL

DATE: 2/1/2021
Drawn By: JED