SITE DESIGN AND DEVELOPMENT
FEASIBILITY REPORT

West Ridge Housing Development

7.831 Acres out of
Lot 201, Kelley – Pharr Subdivision
Vol. 3, Page 133-134 H.C.D.R.
City of Pharr, Hidalgo County, Texas

Submitted and Prepared for

West Ridge Housing Development, LP
316 West Second Street, Suite 600
Los Angeles, CA 90012

And

Texas Department of Housing & Community Affairs
221 E. 11th Street
Austin, Texas 78701

Prepared by: Melden and Hunt, Inc.

Consultants • Engineers • Surveyors
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Civil Engineering - Water & Wastewater - Land Development - Irrigation
Environmental - Transportation - Surveying - Construction Management

Edinburg
P: 956-381-0981
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TABLE OF CONTENTS

TAB 1 - EXECUTIVE SUMMARY
TAB 2 - FEASIBILITY STUDY
TAB 3 - LOCATION MAP
TAB 4 - SURVEY AND M&B'S
TAB 5 - PROPOSED SITE PLAN
TAB 6 - UTILITY SUPPLY LETTERS
TAB 7 - FEMA MAP
TAB 8 - SITE WORK COST EST.
TAB 9 - OFF-SITE WORK COST EST.
TAB 10 - USGS TOPO MAP
TAB 11 - SOILS MAP
EXECUTIVE SUMMARY
EXECUTIVE SUMMARY

West Ridge Housing Development

Subject tract is 7.831 acres situated within The City of Pharr, Hidalgo County, Texas. The site is currently zoned A-O Agricultural. The City of Pharr zoning requirements require R-4 (High Density Multifamily Residential District) zoning for the intended use. A change of zone application has been submitted to the City of Pharr for consideration. Development of the property will require a subdivision. The development will have two points of ingress/egress off W. Ridge Road, which is a major arterial. An Environmental Site Assessment was completed on the property and no recognized environmental concerns were noted.

According to the Soil Conservation Service, the soils are Hidalgo Sandy Clay with low plasticity index and low shrink-swell potential. The property is in FEMA Flood Zones “B” (X 500) and “C” (X). Zone “B” (X 500) are areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. Zone “C” (X) are areas determined to be outside 500-year floodplain determined to be outside the 1% and 0.2% annual chance floodplains. An area inundated by 0.2% annual chance flooding. 8-inch water mains are located on the property on the western boundary within a utility easement and along the south right-of-way of Ridge Road. An 8-inch water loop will be looped through the development to provide fire project. Sanitary sewer service will be connected to an existing sanitary sewer line on the western part of the development located within a utility easement. As part of this feasibility report, we have met with various City of Pharr departments, Hidalgo County Irrigation District No. 2, and the Hidalgo County Drainage District.

Improvements to the site will include the following:

1. A series of storm inlets will be placed within the development that will capture and divert water to the proposed detention pond on the south portion of the property that will discharge into an existing drain line on the south boundary that is located within a drainage easement.
2. Site access from W. Ridge Road
3. Connection to the City of Pharr’s existing 8-inch water lines within Ridge Roads south right-of-way and loop a 8-inch water main to an existing 8-inch water line that is running north and south in an utility easement within the western boundary of the development, to the north and south of the development. The proposed 8-inch water line will be run within K Streets right-of-way.
4. Connection to the City of Pharr’s existing sanitary sewer collection system that is located within the development boundary in an existing utility easement on the western boundary.
5. Connection to power, gas and communications and extension into the site.
6. Adequate parking for the 112-unit facility with sidewalks and appropriate ADA spaces and ramps.
7. Landscaping and irrigation per requirements.

The approval process for the subdivision plat and zoning will take approximately 150 days. Upon final approval of the subdivision plat, the developer will have the option to construct the public improvements or submit a letter of credit for the proposed public improvements so that the plat can be recorded. Once recorded a building permit may be issued construction. The site plan in the attached exhibit materially adheres to all applicable zoning, site development and building code ordinances.
FEASIBILITY STUDY
FEASIBILITY STUDY

West Ridge Housing

EXISTING SITE CONDITIONS:

The proposed development is located approximately 1350 feet east of the intersection of S. Jackson Road and W. Ridge Road on the south side of Ridge Road. Vacant Land abuts the property to the east, a residential neighborhood to the south, a multifamily development to the west, and W. Ridge Road to the north.

SURVEY and/or PROPERTY INFORMATION:

A survey of the 7.831-acre tract has been completed and is included as part of this report.

ENVIRONMENTAL SITE ASSESSMENT:

A Phase 1 ESA of the 7.831-acre tract has been completed and has been submitted as a separate report to the developer. No recognized environmental concerns were noted.

GEOTECHNICAL REPORT:

A geotechnical report has not been performed for the site. According to the Soil Survey of Hidalgo County, Texas published by the Soil Conservation Service, the soils are Hidalgo sandy clay loam with low plasticity index and low shrink-swell potential.

STORM WATER MANAGEMENT

According to the Boundary and Topographical Survey conducted on the site, the site from the north to the south east and there is approximately a 2 ft drop across the site. There are existing storm drains along the south boundary line of the property in a dedicated drainage easement. Hidalgo County Drainage District detention requirements are to detain and discharge the difference between the pre-development 10-year rain frequency storm event and the post-development conditions for a 50-year rain frequency storm event. The required volume will be detained within a proposed detention basin on the south side of the proposed development.

FLOODPLAIN INFORMATION:

The property is in FEMA Flood Zone “B” (X 500) & Zone “C” (X). Zone “B” (X 500) are areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. An area inundated by 0.2% annual chance flooding. Zone “C” (X) are areas determined to be outside 500-year floodplain determined to be outside the 1% and 0.2% annual chance floodplains. An area inundated by 0.2% annual chance flooding. On site detention for this development will be required. The existing topography of the property slopes to the south east and has a drop of approximately 2 ft. The development will incorporate a series of storm inlets to ensure...
that proper drainage of the parking and green areas. A series of storm inlets will be placed along the
development that will capture and divert water into a proposed detention basin that will ultimately discharge
into a City of Pharr drainage line that is located on the south property line within a drainage easement.

TOPOGRAPHIC REVIEW:

A review of the topographical survey shows that the site gradually drains to the south-west corner of the
property. No other key features were observed on the map for this site. Attached please find a copy of the
USGS Topographic Map.

SITE INGRESS/EGRESS AND RIGHT OF WAYS REQUIREMENTS:

The site is subject to ingress/egress requirements set forth by the City of Pharr engineering department.
Currently there are no observed driveways to this tract. As part of this development, two points of
ingress and egress will be provided to the site off of W. Ridge Road. One point of ingress and egress
will be provided via a common access with the adjoining lot owner and the other will be onsite.

OFF-SITE UTILITIES REQUIREMENTS:

None.

ON-SITE UTILITIES REQUIREMENTS:

On-site costs related to the development that can be accounted for at this time are water distribution
system, sanitary sewer system, grading dry utilities, striping and signage, and parking lot pavement.
Based on the preliminary site plans, those costs are estimated to be $1,134,373.00. Both water and
sanitary sewer services in the area are provided by the City of Pharr under their CCN. Both sanitary and
sewer are readily available onsite. Sewer services will be extended to provide service to the development
and a 8-inch water loop will be looped though the site to provide water and fire protection. A system of
drainage inlets will be installed at various locations along the property to collect storm water and convey
it to a proposed detention pond.

WATER/ SANITARY SEWER SERVICE SUMMARY:

Sewer and water services in the area are provided by the City of Pharr under their CCN. An existing 8-
inch sewer line located within a utility easement on the west side of the development. An existing 8-inch
water main is located within a utility easement on the west side of the development and along along the
south right-of-way of W. Ridge Road. Two 6-inch sanitary sewer services will be extended to provide
service to the development and a 8-inch water loop will be looped though the site to provide water and
fire protection. A system of drainage inlets will be installed at various locations along the property to
collect storm water and convey it to a proposed detention pond.
ELECTRICITY, TELEPHONE, CABLE TV, AND GAS

American Electric and Power (AEP) provides electricity to this area. Other utilities to service the site are cable TV & internet by AT&T, Video, Internet, Voice service by Charter Communication, and gas by Texas Gas Service. Currently, we understand that these utility companies have service lines available in the area.

ZONING REQUIREMENTS:

The current zoning of the 7.831 Acer tract is A-O Agriculture. The City of Pharr zoning requirements require R-4 (High Density Multifamily Residential District) zoning for the intended use. A change of zone application has been submitted to the City of Pharr for consideration. For further information on the City’s land development and zoning requirements, please see The City of Pharr Code of Ordinances. It is available online and may be found at the following link:

https://library.municode.com/tx/pharr/codes/code_of_ordinances

BUILDING CODE/ORDINANCES/ DESIGN REQUIREMENTS:

The City of Pharr Building Department will review and provide permits for any construction on this site. The City requires compliance with the latest International Codes, along with the National Electrical Code.

Further code and design information is available at the following website:


The City of Pharr’s Standard Design Guide, which provides additional guidance on the site plan and utility infrastructure requirements, can be found at the following link:

http://pharr-tx.gov/departments/community-planning-development

or from their Development website at:

http://pharr-tx.gov/departments/community-planning-development

The City of Pharr utilizes the Texas Manual on Uniform Traffic Control Devices on traffic safety guidelines.
IMPACT OR DEVELOPMENT FEE SUMMARY:

- The City of Pharr Utility Reimbursement $20,000.00
- Subdivision Application Fee $500.00
- Park’s Fee $67,200.00
- Irrigation Review Fee $300.00
- Irrigation Exclusion Fee $320.00
- Drainage District Review Fee $250.00

BUILDING PERMIT FEE SUMMARY:

The City of Pharr has a building permit review fee. The fee is calculated by the Department at the time of the plans submittal for their review. At this time, it is estimated that the building fee for this project will be $25,000.00. The review time for building permit approval is 30-45 days depending on work load.

SITE PLAN OBSERVATIONS, RECOMMENDATIONS, DESIGN

The Civil Site Plan and Preliminary Site Plan adhere to all known applicable zoning, subdivision, site development, and building code ordinances. The site plan identifies all structures, site amenities, parking spaces (include handicap spaces and ramps) and driveways, topography, site drainage and detention, water and wastewater utility tie-ins, general placement of, retaining walls, setback requirements and any other typical or locally required items.

The City of Pharr Fire Department will review the site plan during the Site Plan Approval process for conformance to the latest International Fire Code. Post-development runoff detention will be required on the site. The Site Plan Approval can be reviewed and approved simultaneously with the subdivision platting process. It is anticipated that this process will take approximately 7 months. This process will need to be completed prior to obtaining the building permit.

SETBACKS AND PARKING REQUIREMENTS

The setback are as follows:

Front: 40 Feet
Side: 10 Feet
Rear: 15 Feet

Parking requirements are as follows:

1 Bedroom – 1.5 parking spaces
2 Bedroom – 1.75 parking spaces
3 Bedroom – 2 Parking spaces

ENTITLEMENT/SITE DEVELOPMENT/PERMITTING PROCESS AND TIMING:

- Submit to City of Pharr for Preliminary plat approval
- City holds P&Z Meeting for preliminary plat approval (45 days)
- City holds City Council for preliminary plat approval (14 days)
- Resubmit to City of Pharr for final plat approval (75 days)
- City holds P&Z Meeting for final plat approval (15 days)
- Record Subdivision plat with financial guarantee (30 days)

MILLAGE RATE:

The combined tax rate for this property location is $2.930500 per $100 in assessed value. Rollback taxes may be assessed on the site at the time of development.

Property ID: 202888
Geographic ID: K2400-00-000-0201-05

OTHER CONSIDERATION OR ISSUES RELEVANT TO SITE DEVELOPMENT:

None at this time.
LOCATION MAP
SURVEY & METES AND BOUNDS
March 1, 2019

METES AND BOUNDS DESCRIPTION

7.831 ACRES
OUT OF LOT 201,
KELLY-PHARR SUBDIVISION
CITY OF PHARR,
HIDALGO COUNTY, TEXAS

A tract of land containing 7.831 acres situated in the City of Pharr, Hidalgo County, Texas, being a part or portion out of Lot 201, Kelly-Pharr Subdivision, according to the plat thereof recorded in Volume S, Pages 133-134, Hidalgo County Deed Records, which said 10.000-acre tract was conveyed to Manrique Properties, LTD., by virtue of an Assumption Warranty Deed recorded under Document Number 2066989, Hidalgo County Official Records, said 7.831 acres also being more particularly described as follows:

COMMENCING at a Nail set on the Northwest corner of said Lot 201;

THENCE, S 81° 27' 00'' E along the North line of said Lot 201 and within the existing right-of-way of W. Ridge Road, a distance of 270.00 feet to a Nail set, for the Northernmost Northwest corner and POINT OF BEGINNING of this herein described tract;

1. THENCE, S 81° 27' 00'' E along the North line of said Lot 201 and within the existing right-of-way of W. Ridge Road, a distance of 60.00 feet to a Nail set, for the Northeast corner of this tract;

2. THENCE, S 08° 33' 00'' W at a distance of 20.00 feet pass a No. 4 rebar set on the existing South right-of-way line of W. Ridge Road, at a distance of 396.00 feet pass a No. 5 rebar found in line, continuing a total distance of 1,320.00 feet to a No. 4 rebar set on the South line of said Lot 201, for the Southeast corner of this tract;

3. THENCE, N 81° 27' 00'' W along the South line of said Lot 201, a distance of 330.00 feet to a No. 4 rebar found [Northing: 16590620.752, Easting: 1081688.769] on the Southwest corner of said Lot 201, for the Southwest corner of this tract;

4. THENCE, N 08° 33' 00'' E along the West line of said Lot 201, a distance of 870.00 feet to a No. 4 rebar set, for the Southernmost Northwest corner of this tract;

5. THENCE, S 81° 27' 00'' E a distance of 270.00 feet to a No. 4 rebar set, for an inside corner of this tract;

6. THENCE, N 08° 33' 00'' E at a distance of 330.00 feet pass a No. 4 rebar set on the existing South right-of-way line of W. Ridge Road, continuing a total distance of 350.00 feet to the POINT OF BEGINNING and containing 7.831 acres, of which 0.028 of one acre lies within the existing right-of-way of W. Ridge Road, leaving a net of 7.803 acres of land, more or less.

I, FRED L. KURTH, A REGISTERED PROFESSIONAL LAND SURVEYOR DO HEREBY AFFIRM THAT THIS METES AND BOUNDS DESCRIPTION REPRESENTS THE RESULTS OF A SURVEY MADE ON THE GROUND ON 02/21/2019 UNDER MY DIRECTION AND SUPERVISION.

FRED L. KURTH, R.P.L.S. #4750

DATE:

Page 1 of 2
PROPOSED SITE PLAN
UTILITY SUPPLIER LETTER
March 1, 2019

Cesar Chavez Foundation  
c/o Jennifer Bartlett, Director of Business Development  
316 West Second Street, Suite 600  
Los Angeles, CA 90012  

RE: Kelly Pharr Subdivision Pharr, TX

Dear Client,

Your new subdivision, located at 1511 W. Ridge Road, (10 acres), Lot 201 Kelly Pharr Subdivision, Pharr, TX, Hidalgo County, is in Charter Communication’s footprint for video, internet and voice services. Absent of any unforeseeable adverse circumstances or conditions including any force majeure events outside of Charter’s control, and upon completion of a mutually agreed upon Service Agreement, Charter Communications will be able to extend its plant to provide service to your project.

We will need to work with your representatives on an Access Agreement, for your project. We will need this Agreement executed prior to Charter beginning our construction phase for the project.

**Not a Binding Obligation.** THIS LETTER OF INTENT DOES NOT CONSTITUTE OR CREATE, AND SHALL NOT BE DEEMED TO CONSTITUTE OR CREATE, ANY LEGALLY BINDING OR ENFORCEABLE OBLIGATION ON THE PART OF EITHER PARTY TO THIS LETTER OF INTENT. NO SUCH OBLIGATION SHALL BE CREATED, EXCEPT BY THE EXECUTION AND DELIVERY OF THE ACCESS AGREEMENT CONTAINING SUCH TERMS AND CONDITIONS OF THE PROPOSED TRANSACTIONS AS SHALL BE AGREED UPON BY THE PARTIES, AND THEN ONLY IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SUCH ACCESS AGREEMENT.

Feel free to contact me if you have any questions.

Sincerely,

Alison Savage

Alison Savage  
Sr MDU Account Executive- Spectrum Community Solutions  
956-238-9079  
1514 S. 77 Sunshine Strip, Ste. 1  
Harlingen, TX 78550  
alison.savage@charter.com
February 21, 2019

Cesar Chavez Foundation
 c/o Jennifer Bartlett, Director of Business Development
 316 West Second Street, Suite 600
 Los Angeles, CA 90012

RE: 1511 West Ridge Rd. Pharr, Texas

To whom it may concern,

This letter is to inform you that AT&T facilities are readily available for the aforementioned area. Facilities are located along the south side of Ridge Rd. going east to west.

If you have any questions, please call me at 956-630-8257.

Sincerely,

Eliezer “Al” Garza
AT&T Manager-Engineering Design
Office: 956-630-8257
Fax: 956-630-8258
g9357@att.com
AEP- Texas Central Company  
5700 N. Cage Blvd.  
Pharr, TX 78577  
www.aep.com

Date: 2/26/2019

Name: Jennifer Bartlett  
Address: 316 West Second Street, Suite 600  
City: Los Angeles, CA

RE: CESAR CHAVEZ FOUNDATION

---

**AEP** has electrical service in the area and is able to provide electrical service depending on voltage requirements.

☑️ Overhead Service  
☑️ Underground Service

**AEP** looks forward to working with you during its development.

Please be sure to call 1-877-373-4858 and make application for the new service.

Thank you for selecting **AEP** as your electrical supplier. Should you have any questions, please feel free to contact us.

Sincerely,

---

Martin A. Valdes  
Engineering Tech.  
Engineering Department  
Pharr North S/C Customer Design  
(956) 283-2425 - office  
(956) 283-2382 - fax  
(956) 693-3833 - cell  
mavaldes@aep.com
February 21, 2019

Cesar Chavez Foundation
c/o Jennifer Bartlett, Director of Business Development
316 West Second Street, Suite 600
Los Angeles, CA 90012

RE: Proposed Multi-family Site at 1511 W Ridge Rd
Pharr, TX

Ms. Bartlett,

This letter is to inform you that we have reviewed your information regarding the above-mentioned request. Texas Gas Service has a 2" gas line that runs along the south side of W Ridge Road that may be used to provide natural gas service to this site.

Please contact our Texas Gas Service Project Managers, Bernardo Elizondo at (956) 238-7191 or Luis Adame at (956) 357-2519 when you are ready to initiate service. We will provide a cost and contract required for the service line.

Should you have any questions or require further information, please do not hesitate to contact me at (956)444-3929.

Thank you.

Octavio Rangel
Tech Analyst
Texas Gas Service
(956)444-3929
Octavio.Rangel@onegas.com
FEMA MAP
SITE WORK COST ESTIMATE
# Site Work Cost Breakdown

This form must be submitted with the Development Cost Schedule as justification of Site Work costs.

Column A: The Site Work activity reflected here must match the Site Work activity reflected in the Development Cost Schedule.

Columns B and C: In determining actual construction cost, two different methods may be used:

- The construction costs may be broken into labor (Column B) and materials (Column C) for the activity; OR
- The use of unit price (Column B) and the number of units (Column C) data for the activity.

Column D: To arrive at total construction costs in Column D:

- if based on labor and materials, add Column B and Column C together to arrive at total construction costs.
- if based on unit price measures, Column B is multiplied by Column C to arrive at total construction costs.

Column E: Any proposed activity involving the acquisition of real property, easements, rights-of-way, etc., must have the projected costs of this acquisition for the activity.

Column F: Engineering/architectural costs must be broken out by the Site Work activity.

Column G: Figures for Column G, Total Activity Cost, are obtained by adding together Columns D, E, and F to get the total costs.

**This form must be completed by a Third-Party engineer licensed to practice in the State of Texas. His or her signature and registration seal must be on the form.**

For Site Work costs that exceed $15,000 per Unit and are included in Eligible Basis, a CPA letter allocating which portions of those site costs should be included in Eligible Basis and which ones may be ineligible must be submitted behind this tab.

<table>
<thead>
<tr>
<th>A. Activity</th>
<th>B. Labor or Unit Price</th>
<th>C. Materials or # of Units</th>
<th>D. Total Construction Costs</th>
<th>E. Acquisition Costs</th>
<th>F. Engineering / Architectural Costs</th>
<th>G. Total Activity Costs</th>
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</thead>
<tbody>
<tr>
<td>Detention</td>
<td></td>
<td></td>
<td>$50,000.00</td>
<td></td>
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<td>$50,000</td>
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<tr>
<td>Site Work</td>
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<td></td>
<td>$100,000.00</td>
<td></td>
<td></td>
<td>$100,000</td>
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<tr>
<td>On-site concrete (pavement, curb, and sidewalks)</td>
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<td></td>
<td>$749,373.00</td>
<td></td>
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<td>$749,373</td>
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<tr>
<td>On-site electrical</td>
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<td>On-site utilities</td>
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<td></td>
<td>$120,000.00</td>
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<td>Bumper stops, striping &amp; signs</td>
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<td></td>
<td>$35,000.00</td>
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<td>Erosion Control</td>
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<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,134,373</td>
</tr>
</tbody>
</table>

Signature of Registered Engineer responsible for Budget Justification

Printed Name:

Date: 2-08-??

Seal:

[Logo of State of Texas Professional Engineer]

2/28/2019
OFF-SITE WORK COST ESTIMATE
SOILS MAP
MAP LEGEND

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)
Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 17, Sep 15, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 8, 2015—Feb 18, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Hydrologic Soil Group

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Hidalgo sandy clay loam, 0 to 1 percent slopes</td>
<td>B</td>
<td>7.6</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Totals for Area of Interest | 7.6 | 100.0% |

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

*Aggregation Method:* Dominant Condition
Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.