

2907 S. MAPLE AVENUE  
FRESNO, CALIFORNIA 93725-2208  
TELEPHONE: (559) 233-7161  
FAX: (559) 233-8227

## **A Century of Commitment, Conveyance & Customer Service**

September 11, 2020

Gene Abella  
City of Clovis  
1033 Fifth Street  
Clovis, CA 93612

RE: Heritage Grove Plan Lines

Dear Mr. Abella:

The Fresno Irrigation District (FID) has reviewed the Heritage Grove Plan Lines provided by the City of Clovis. FID has the following comment:

### **FID Design Considerations and Concerns**

- The below comments are general in nature and reflect FID comments and conditions on future road developments and Agency improvements. FID reserves the right to provide additional comments and conditions as future projects are submitted and progress.
- The following FID Standards shall be applied to any Agency or Developer improvements impacting FID facilities and are attached for your reference: 1-01, 1-02, 2-01, 3-01, and 3-02.
- Impacted FID Canals: FID requires all top of banks to be 20 feet full width. All intersections with major streets require FID drive approaches at all four corners per Standard Detail 1-02. Box Culverts are required at all street crossings and must have 2 feet of freeboard above the high-water line.
- Impacted FID Pipelines: FID requires all pipelines be provided exclusive and perpetual easements per FID standards, be located outside City rights-of-ways, any PUE's, and to the extent possible, outside of any residential, commercial, industrial parcels or urban developments. All FID pipelines that require relocation shall be brought up to FID's current standards and be located within landscape and/or trail areas with no encroachments.

### **Copper Avenue, Willow to Sunnyside Alignment**

1. FID does not own, operate, or maintain any facilities along this stretch of Copper Avenue, as shown on the attached FID exhibit map.

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**International Avenue, Willow to Minnewawa**

1. FID's Enterprise No. 109 canal runs westerly approximately 175 feet south of the plan line for International Avenue and crosses Willow Avenue, as shown on the attached FID exhibit map and may be impacted by the future Heritage Grove Plan Lines.

**Behymer Avenue, Willow to the Sunnyside Alignment**

1. FID's Enterprise No. 109 pipeline runs westerly crossing Behymer Avenue approximately 1,530 feet east of Minnewawa Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines.
2. FID's Woodward No. 377 pipeline runs southerly along the east side of Minnewawa Avenue, crossing the intersection at Behymer Avenue and continues south along the west side of Minnewawa Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines.
3. FID's Los Almos No. 375 pipeline runs southerly and crosses Behymer Avenue approximately 2,300 feet west of Minnewawa Avenue and continues both south and west along the south side of Behymer Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines.
4. For informational purposes, a private facility known as the Woodward No. 377 runs westerly beginning at the southwest corner of Behymer and Minnewawa avenues and continues along the south side of Behymer Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines. FID records indicate this facility is active and should be treated as such.
5. For informational purposes, a private facility known as the Los Almos No. 375 runs westerly being approximately 1,420 feet east of Willow Avenue and continues along the south side Behymer Avenue eventually turning south along the east side of Willow Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines. FID records indicate this facility is active and should be treated as such.

**Minnewawa Avenue, Shepherd to International**

1. FID's Enterprise No. 109 canal runs westerly crossing Minnewawa Avenue approximately 1,300 feet north of Behymer Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines.
2. FID's Woodward No. 377 pipeline runs southerly along the east side of Minnewawa Avenue, crossing the intersection at Behymer Avenue and continues south along the west side of Minnewawa Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines.
3. For informational purposes, a private facility known as the Woodward No. 377 runs westerly beginning at the southwest corner of Behymer and Minnewawa avenues and continues along the south side of Behymer Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines. In addition, another private section known as the Woodward No. 377 runs westerly approximately

660 feet south of Behymer Avenue, as shown on the attached FID exhibit map and will also be impacted. FID records indicate these facilities are active and should be treated as such.

4. For informational purposes, a private facility known as the Behymer No. 427 runs westerly crossing Minnewawa Avenue approximately 665 feet north of Shepherd Avenue and parallels the west side of Minnewawa Avenue, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines. FID records indicate this facility is active and should be treated as such.

**Clovis Avenue, Behymer to Copper**

1. FID's Enterprise No. 109 canal runs westerly crossing Behymer Avenue approximately 1,520 feet east of Minnewawa Avenue, parallels the east side of the Clovis Avenue plan line for approximately 1,230 feet before turning west and crossing the future Clovis Avenue plan line, as shown on the attached FID exhibit map and will be impacted by the future Heritage Grove Plan Lines.

**International-Minnewawa Connection**

1. FID does not own, operate, or maintain any facilities in the vicinity of this intersection, as shown on the attached FID exhibit map.

Thank you for submitting this for our review. We appreciate the opportunity to review and comment on the subject documents for the proposed project. If you have any questions, please feel free to contact Chris Lundeen at (559) 233-7161 extension 7410 or [clundeen@fresnoirrigation.com](mailto:clundeen@fresnoirrigation.com).

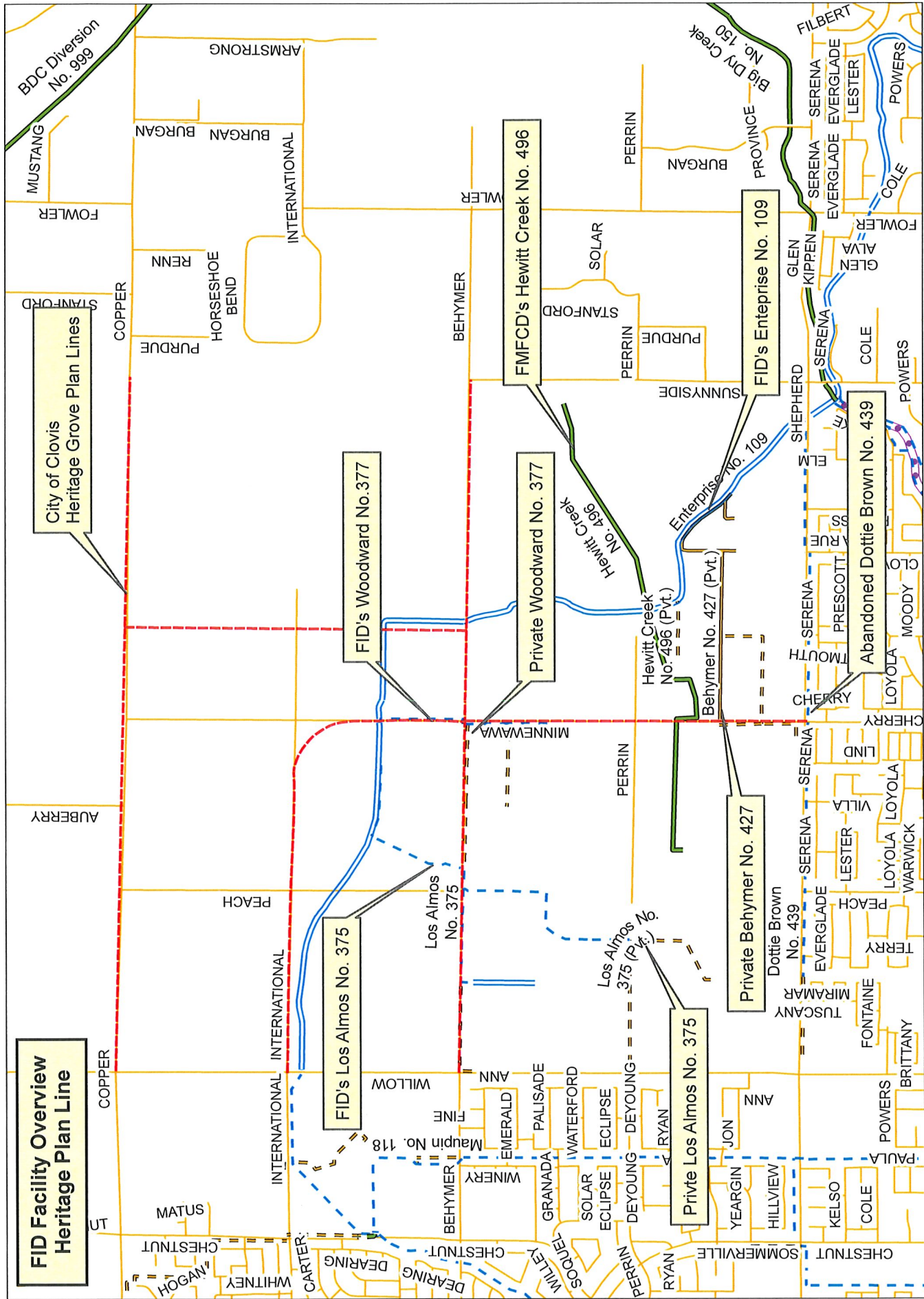
Sincerely,



Laurence Kimura, P.E.  
Chief Engineer

Attachments





This map was produced by the Fresno Irrigation District and is provided for reference and informational purposes only and is not intended to show map scale accuracy or any inclusive map features, nor for legal purposes. FID makes no statements regarding the accuracy of this map as the features shown are in their approximate location. Please contact the FID Engineering Dept. at (559) 233-7161 for further information on FID facilities.



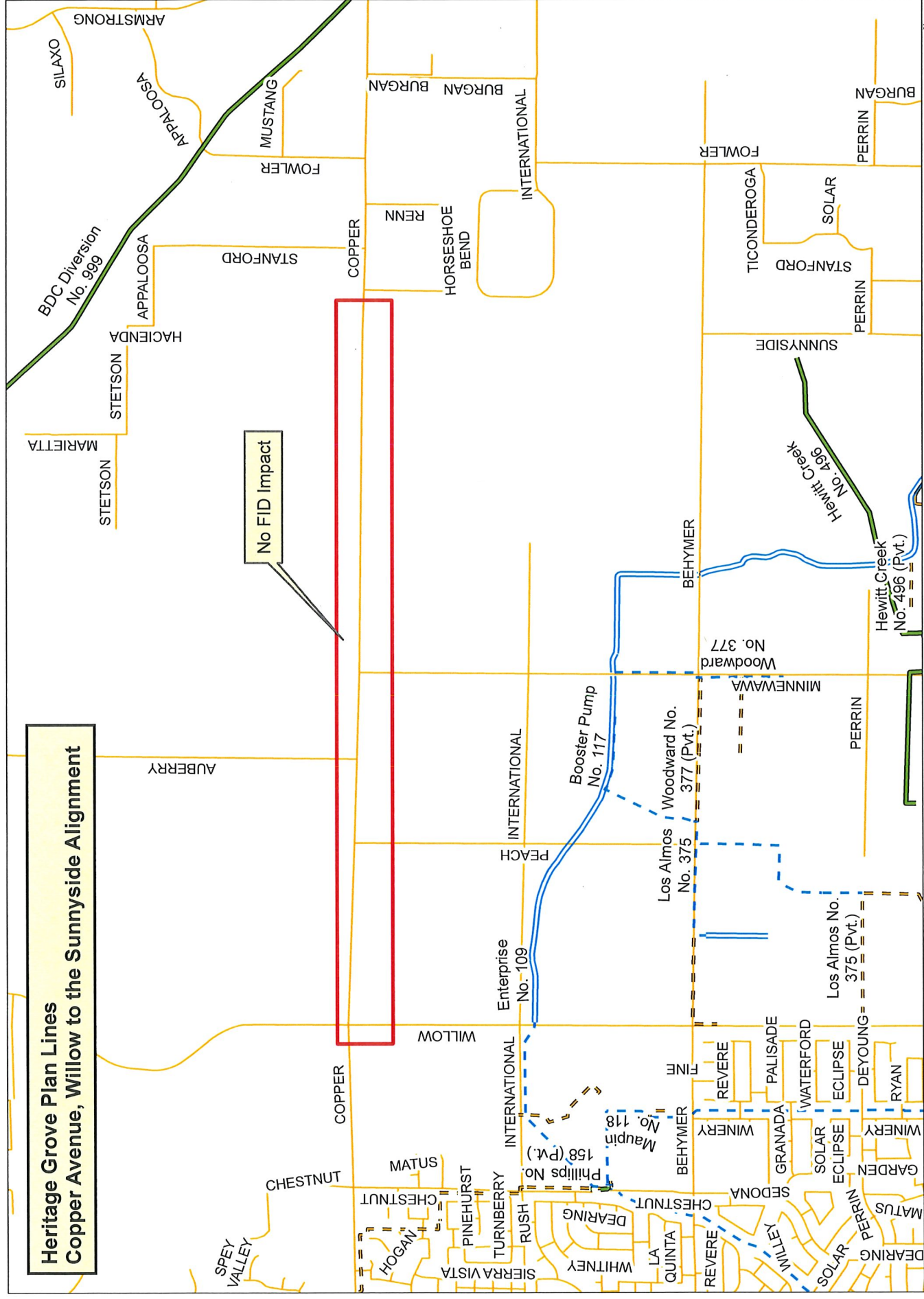
FRESNO IRRIGATION DISTRICT

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# Heritage Grove Plan Lines Copper Avenue, Willow to the Sunnyside Alignment

No FID Impact

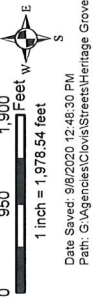


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## Legend

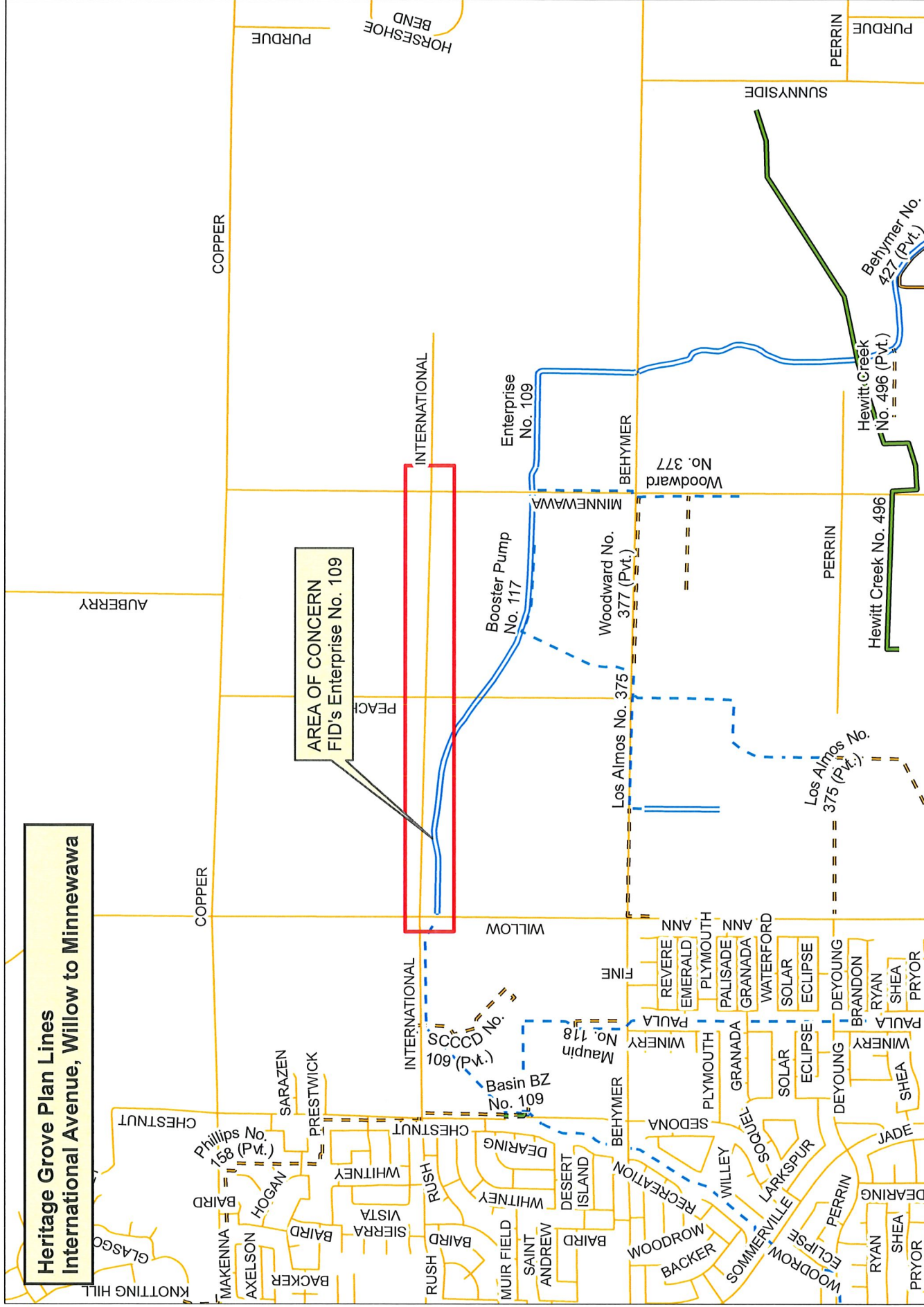
- Parcel
- FMFCD Acquired Basins
- FMFCD Proposed Basins
- FID Boundary
- Stream Group
- Other-Creek/River
- Other-Pipeline
- Abandoned Pipeline
- FID Pipeline
- Private Pipeline
- Abandoned Canal
- FID Canal
- Private Canal
- Abandoned Canal
- Railroad
- Streets & Hwys



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FRESNO IRRIGATION DISTRICT

# Heritage Grove Plan Lines International Avenue, Willow to Minnewawa



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FRESNO IRRIGATION DISTRICT

## Legend

- FID Canal
- Private Canal
- Abandoned Canal
- FID Pipeline
- Private Pipeline
- Abandoned Pipeline
- Stream Group
- Other-Creek/River
- Other-Pipeline
- FID Boundary
- Railroad
- Streets & Hwys
- Parcel
- FMFCD Acquired Basins
- FMFCD Proposed Basins



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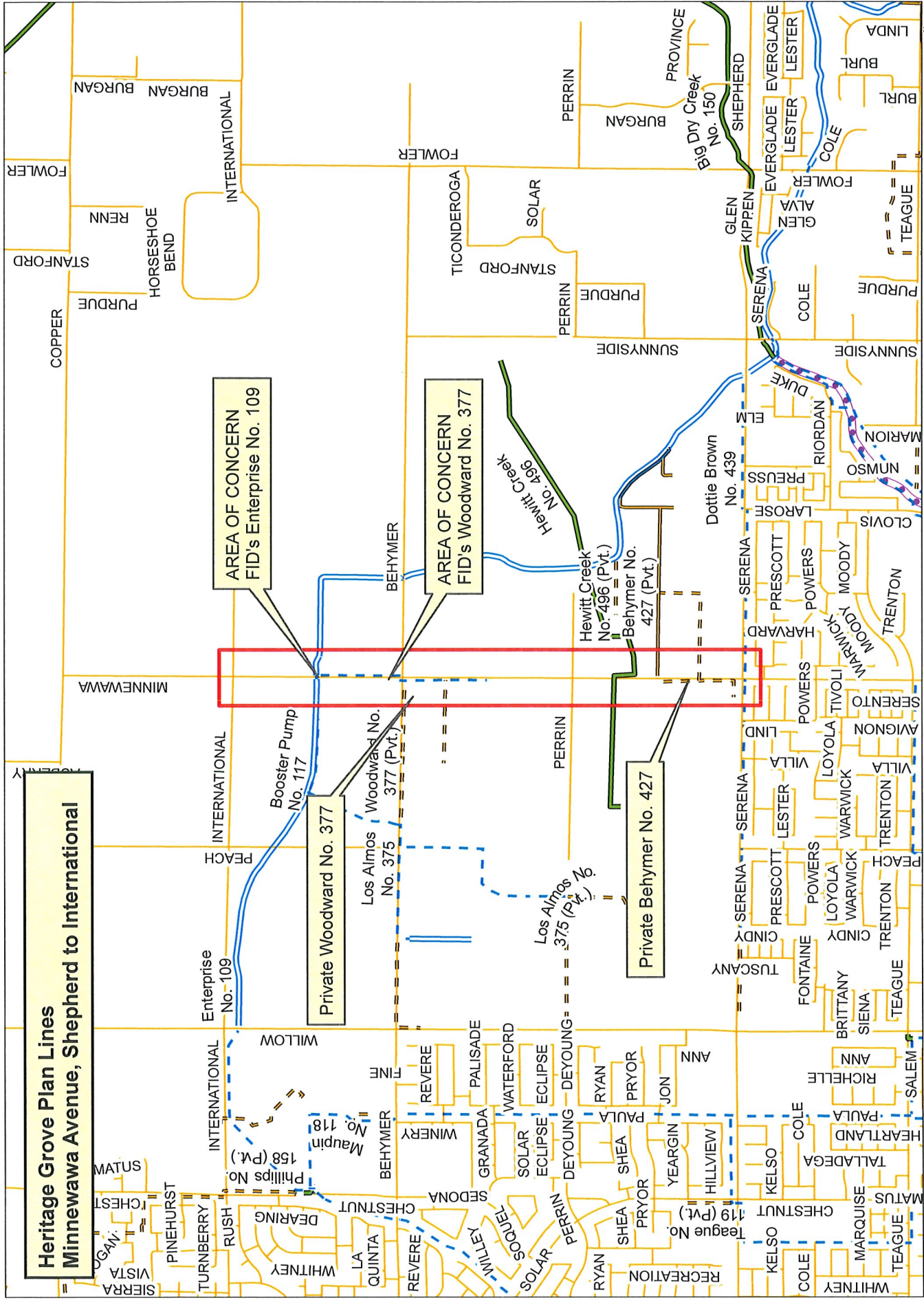
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0 1,500 Feet  
= 1,648.79 feet

FRESNO IRRIGATION DISTRICT



**Heritage Grove Plan Lines**  
**Minnewawa Avenue, Shepherd to International**



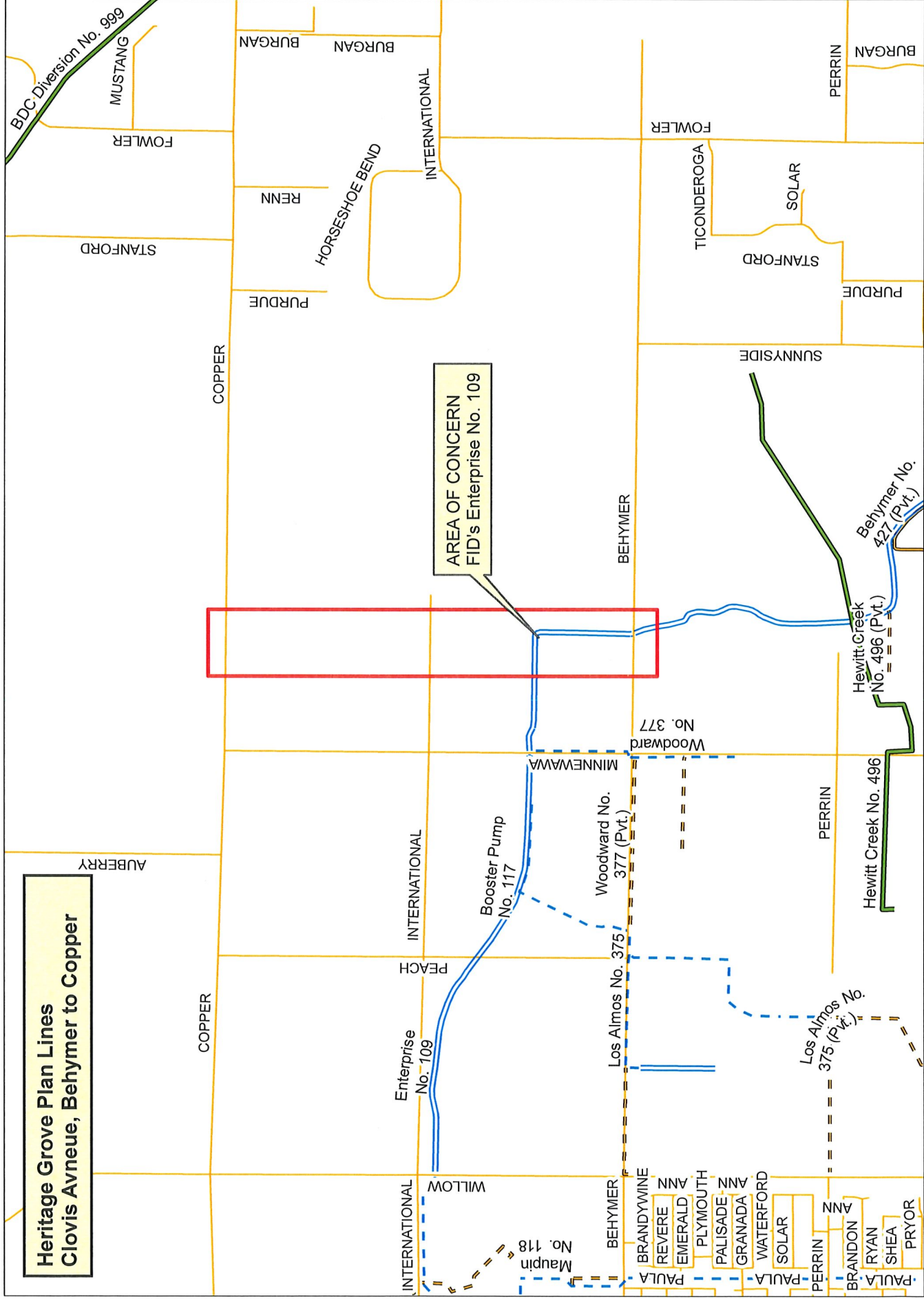
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FRESNO IRRIGATION DISTRICT

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# Heritage Grove Plan Lines Clovis Avneue, Behymer to Copper



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**FRESNO IRRIGATION DISTRICT**

**Legend**

- Stream Group
- Other-Creek/River
- Other-Pipeline
- FID Pipeline
- Private Pipeline
- Abandoned Pipeline
- FID Canal
- Private Canal
- Abandoned Canal
- Parcel
- FMFCD Acquired Basins
- FMFCD Proposed Basins
- FID Boundary
- Railroad
- Streets & Hwys

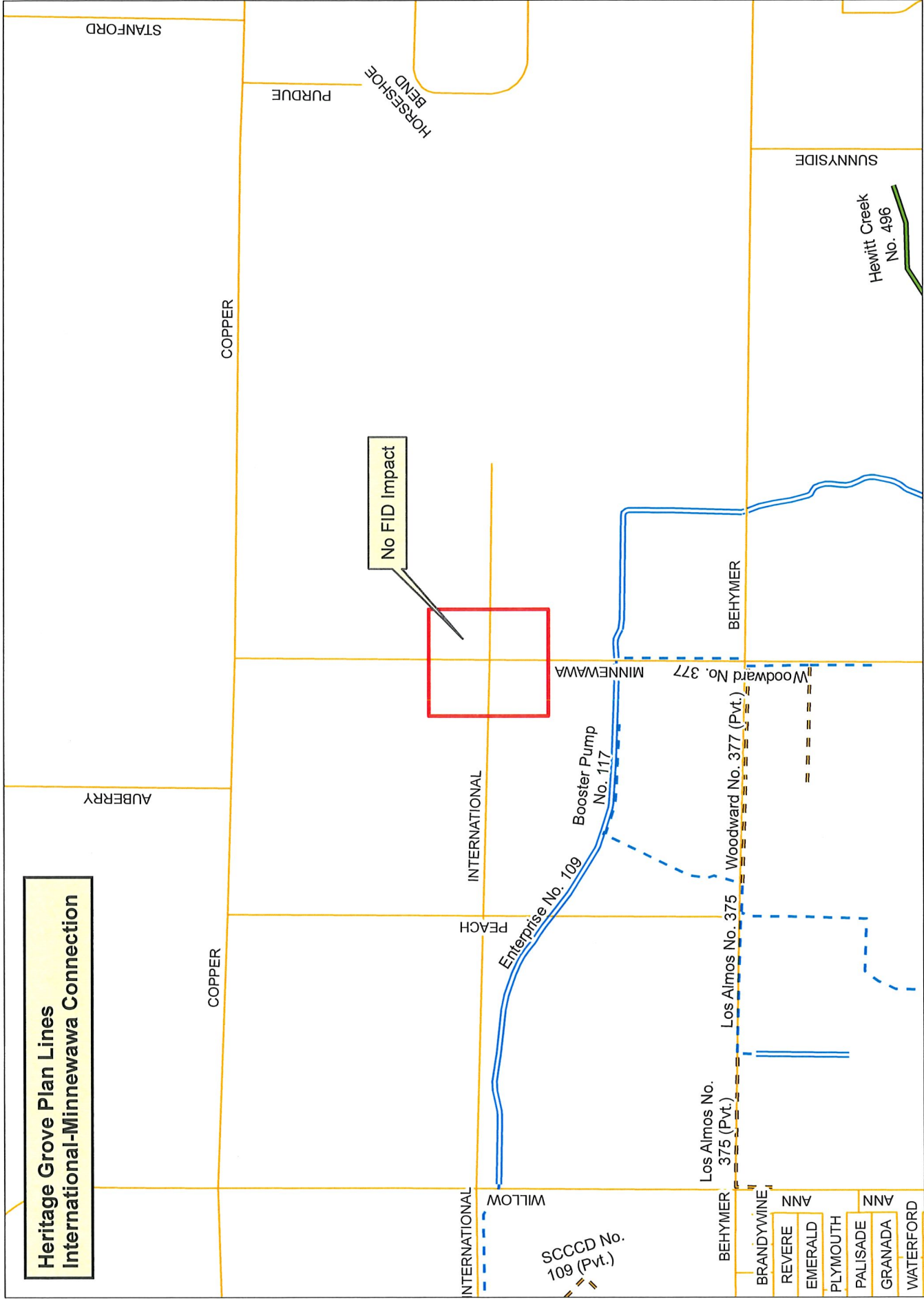
Scale: 1 inch = 1,648.79 feet  
0 750 1,500 Feet

North Arrow

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# Heritage Grove Plan Lines International-Minnewawa Connection



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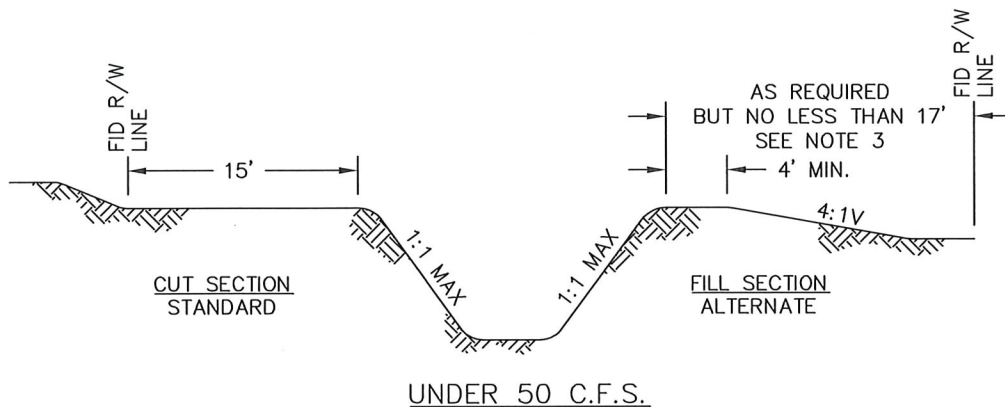
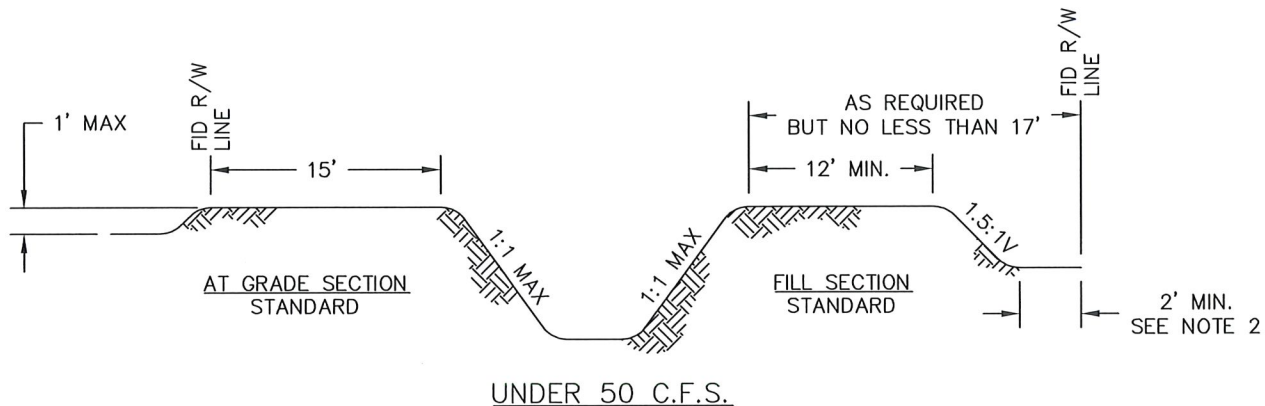
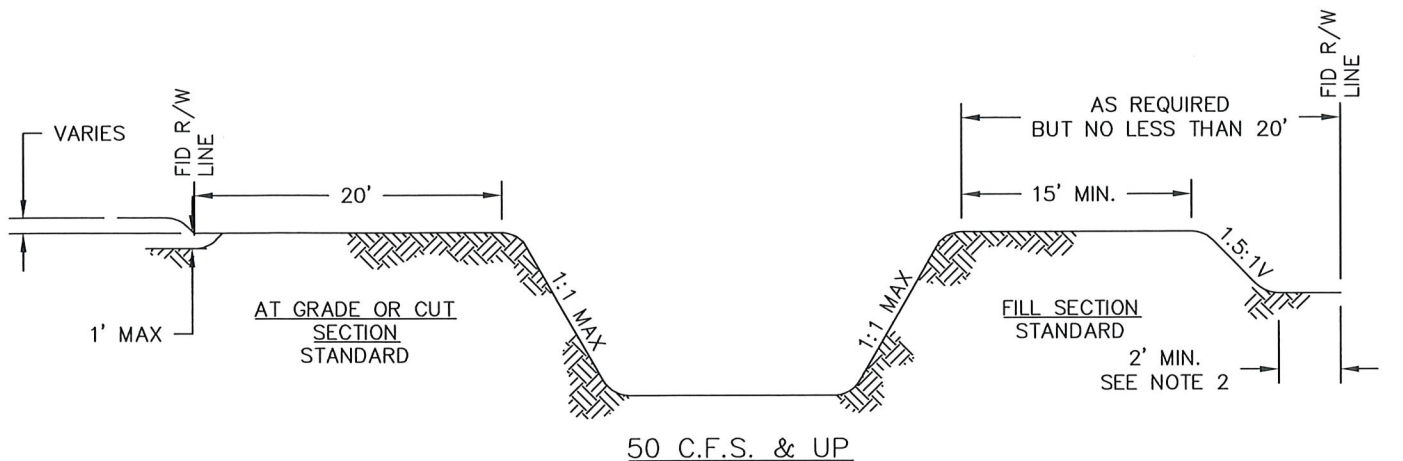
FRESNO IRRIGATION DISTRICT

- Legend**
- FID Boundary
  - FID Pipeline
  - Private Pipeline
  - Abandoned Pipeline
  - FID Canal
  - Private Canal
  - Abandoned Canal
  - Stream Group
  - Other-Creek/River
  - Other-Pipeline
  - Parcel
  - FMFCD Acquired Basins
  - FMFCD Proposed Basins
  - Railroad
  - Streets & Hwys



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NOTES:

1. ALL PRIVATE FACILITIES TO BE LOCATED OUTSIDE FID RIGHT-OF-WAY.
2. ADD 2 FEET TO EMBANKMENT WIDTH TO ESTABLISH OVERALL RIGHT-OF-WAY WIDTH TO ACCOMMODATE GRADER BLADE CLEARANCE.
3. THE ALTERNATE SECTION CANNOT BE USED IF THE OVERALL WIDTH EXCEEDS THE STANDARD WIDTH AND IS PERMITTED ONLY WHEN DISTRICT OPERATIONS AND MAINTENANCE FUNCTIONS DO NOT REQUIRE A STANDARD ROADWAY.



FRESNO IRRIGATION DISTRICT

CANAL RIGHT-OF-WAY

"Your Most Valuable Resource – Water"

SCALE: NOT TO SCALE

DATE: JANUARY 2018

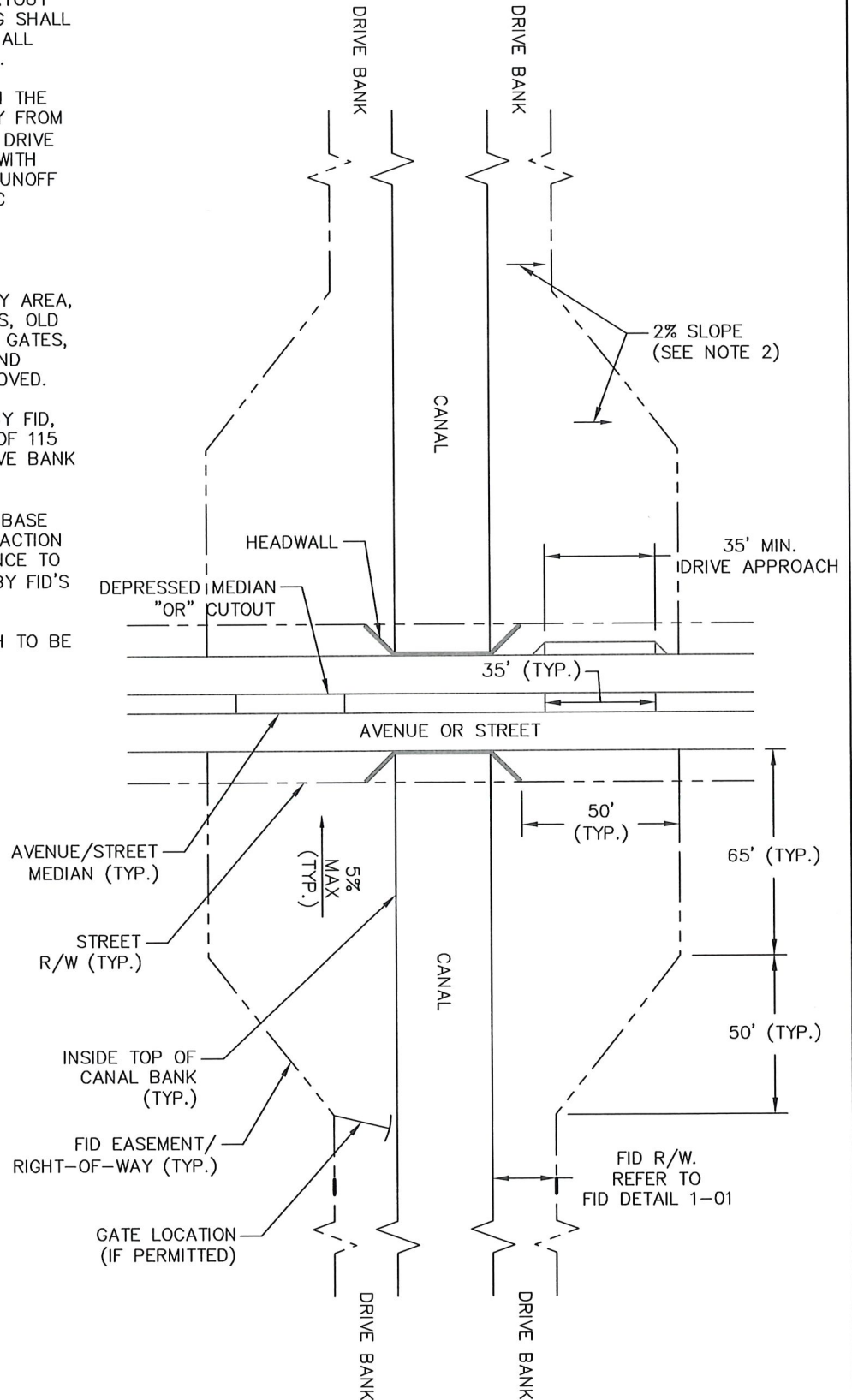
STANDARD DETAIL

1-01

SHEET 1 OF 1

**NOTES:**

1. DIMENSIONS AND NOTES ARE FOR LAYOUT PURPOSES ONLY. A SCALED DRAWING SHALL BE PREPARED AND SUBMITTED WITH ALL PLAN SETS PRIOR TO CONSTRUCTION.
2. DRAINAGE WILL NOT BE ACCEPTED IN THE CANAL AND SHALL BE ROUTED AWAY FROM FID PROPERTY/DRIVE BANKS. SLOPE DRIVE BANKS 2% AWAY FROM THE CANAL WITH PROVISIONS MADE FOR RAINFALL. RUNOFF TO BE CONVEYED TO NEARBY PUBLIC STREETS OR DRAINAGE SYSTEM BY DRAINAGE SWALES OR OTHER FID ACCEPTABLE ALTERNATIVES.
3. WITHIN FID EASEMENT/RIGHT-OF-WAY AREA, ALL EXISTING TREES, BUSHES, DEBRIS, OLD CANAL STRUCTURES, PUMPS, CANAL GATES, AND OTHER NON OR INACTIVE FID AND PRIVATE STRUCTURES MUST BE REMOVED.
4. IF AN ACCESS GATE IS PERMITTED BY FID, GATE MUST BE PLACED A MINIMUM OF 115 FEET AWAY FROM ROAD, WHERE DRIVE BANK NARROWS TO 20 FEET.
5. THREE INCH (3") THICK AGGREGATE BASE COMPACTED TO 93% RELATIVE COMPACTION SHALL BE REQUIRED AT THE ENTRANCE TO EACH DRIVE BANK AS DETERMINED BY FID'S ENGINEER. NO REGRIND ASPHALT.
6. DRIVEWAY APPROACH MINIMUM WIDTH TO BE 35 FEET.



FRESNO IRRIGATION DISTRICT

DRIVE APPROACH – URBAN AREAS

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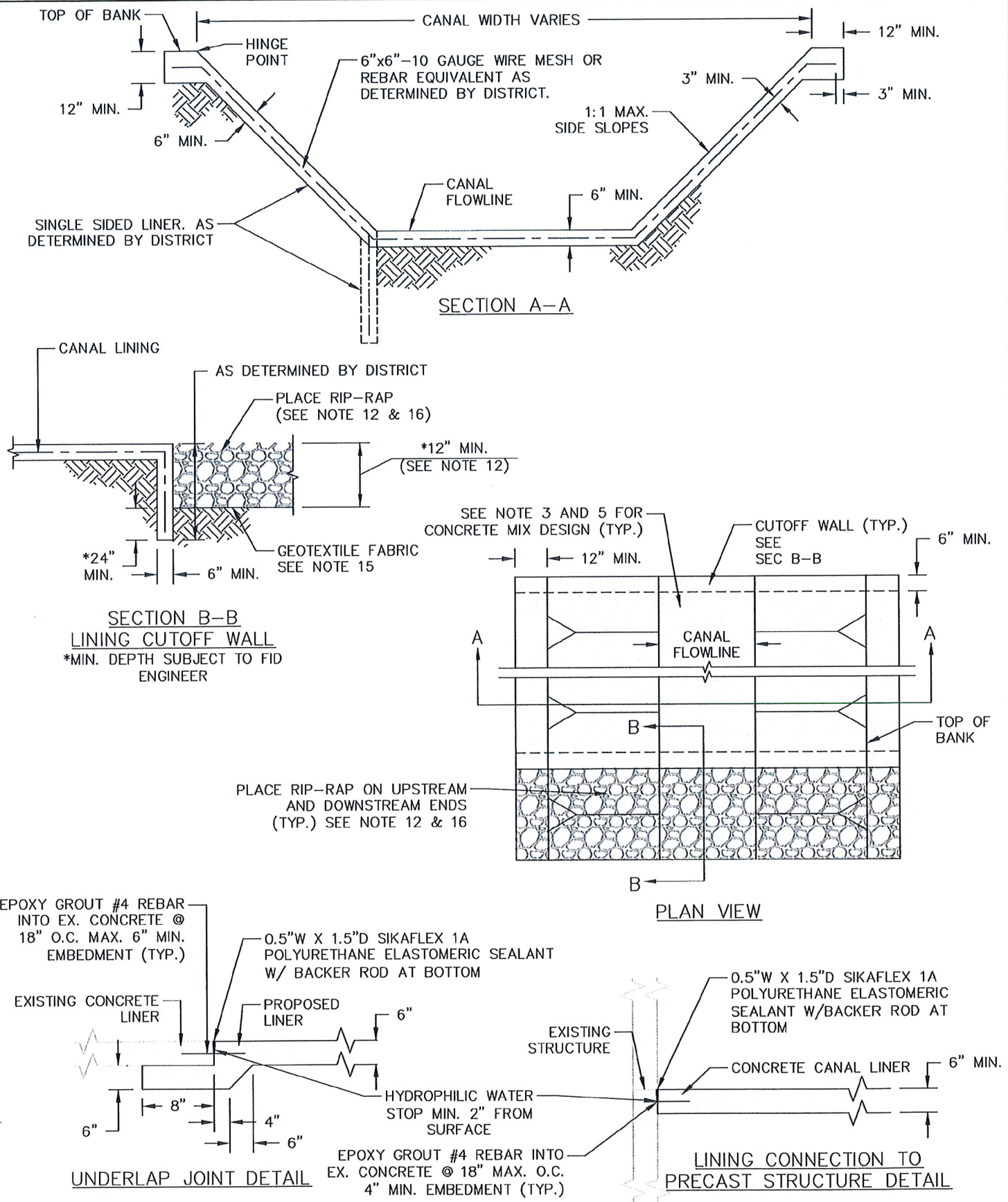
SCALE: NOT TO SCALE

STANDARD DETAIL

DATE: JANUARY 2018

1-02

SHEET 1 OF 1



FRESNO IRRIGATION DISTRICT

"Your Most Valuable Resource - Water"

CANAL LINING

SCALE: NOT TO SCALE

DATE: JANUARY 2018

STANDARD DETAIL

2-01

SHEET 1 OF 2



CANAL LINING NOTES:

1. LINING SHALL BE PLACED ON FIRM COMPETENT MATERIAL. IF THE UNDERLYING SOILS ARE NOT SUITABLE FOR CONCRETE PLACEMENT, CONTRACTOR SHALL OVER-EXCAVATE AND REPLACE WITH COMPACTED ENGINEERED FILL.
2. ALL DISTURBED SOILS TO HAVE MINIMUM OF 93% RELATIVE COMPACTION PER ASTM D-1557 IN FILL AREAS FOR A DISTANCE 5 FEET MINIMUM AROUND CONCRETE LINER.
3. CONCRETE LINING SHALL BE A MINIMUM OF 6-1/2 SACK WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI.
4. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN TO FID FOR APPROVAL PRIOR TO CONSTRUCTION.
5. FIBERCAST 500 OR EQUIVALENT CONCRETE FIBER REINFORCEMENT WITH FIBER LENGTHS BETWEEN 1.5 INCH TO 2 INCH. APPLICATION RATE SHALL BE AT A MINIMUM OF 1.5 POUNDS. PER CUBIC YARD AND BE INCLUDED IN THE CONCRETE MIX.
6. 6" X 6" - 10" X 10" GAUGE WIRE MESH MAY BE UNCOATED OR GALVANIZED.
7. INSTALL ACCESS/SAFETY LADDERS ON ALTERNATE SIDES OF CANAL 18 INCH ON CENTER AT 100 FEET INTERVALS PER CAL OSHA STANDARDS OR AS DETERMINED BY DISTRICT.
8. LINING CUTOFF WALLS TO BE CONSTRUCTED UPSTREAM AND DOWNSTREAM OF CONCRETE LINING. LINING CUTOFF DEPTH TO BE DETERMINED BY DISTRICT.
9. AS DIRECTED BY FID'S INSPECTOR OR ENGINEER, CONTRACTOR SHALL MAKE AVAILABLE 7 DAY AND 28 DAY COMPRESSIVE STRENGTH TEST RESULTS.
10. CONTROL JOINTS REQUIRED EVERY 10 FEET IN TRANSVERSE DIRECTIONS WITH CONCRETE JOINT SEAL AND BACKER ROD.
11. CONCRETE LINER REQUIRED FOR A MINIMUM OF 5 FEET IN LENGTH OR LIMITS OF DISTURBED SOIL, WHICHEVER IS GREATER.

RIP-RAP NOTES:

12. RIP-RAP REQUIREMENT AS DETERMINED BY FID ENGINEER AND/OR INSPECTOR.
13. CLASS 2 RIP-RAP WITH METHOD B PLACEMENT FOR A MINIMUM OF 5 FEET PER 2010 CALTRANS STANDARDS AROUND CHANNEL FLOOR AND SIDE SLOPES OR AS DETERMINED BY FID'S ENGINEER. PLACE WOVEN GEOTEXTILE FABRIC BENEATH RIP-RAP.
14. CUTOFF WALLS SHALL BE EXCAVATED TO A MINIMUM OF 3 FEET BELOW NATIVE GRADE AND 24 INCHES BELOW RIP-RAP SUBGRADE UNLESS OTHERWISE DETERMINED BY FID'S ENGINEER.
15. WOVEN GEOTEXTILE FABRIC SHALL BE MIRAFI FW500 OR APPROVED EQUIVALENT.
16. RIP-RAP REQUIRED FOR A MINIMUM OF 5 FEET ON UPSTREAM AND DOWNSTREAM ENDS OF CONCRETE LINING.



FRESNO IRRIGATION DISTRICT

"Your Most Valuable Resource - Water"

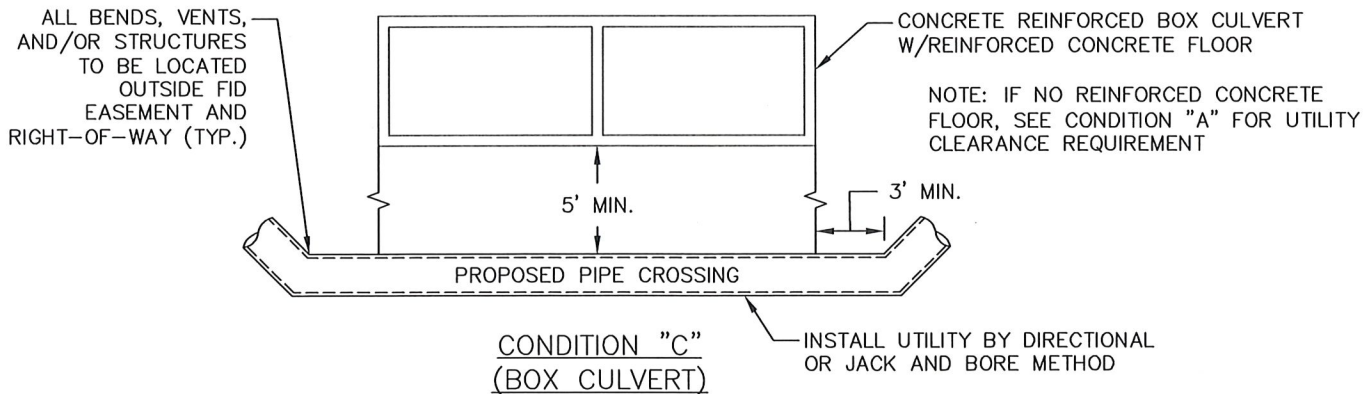
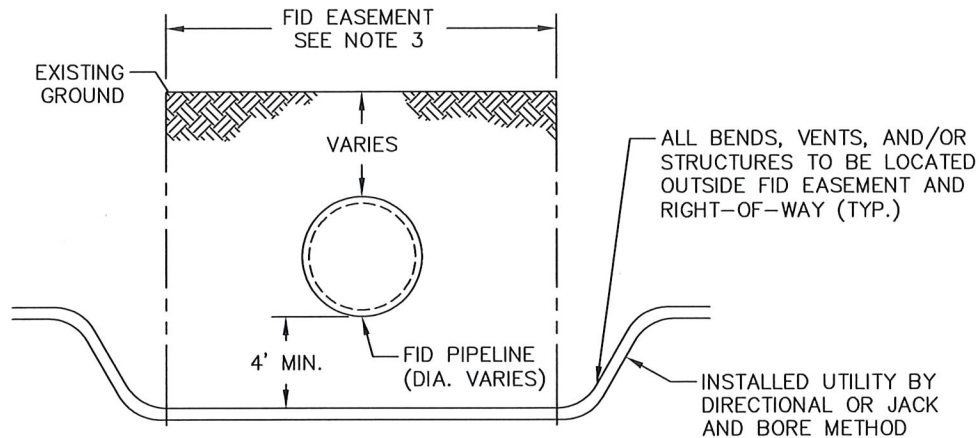
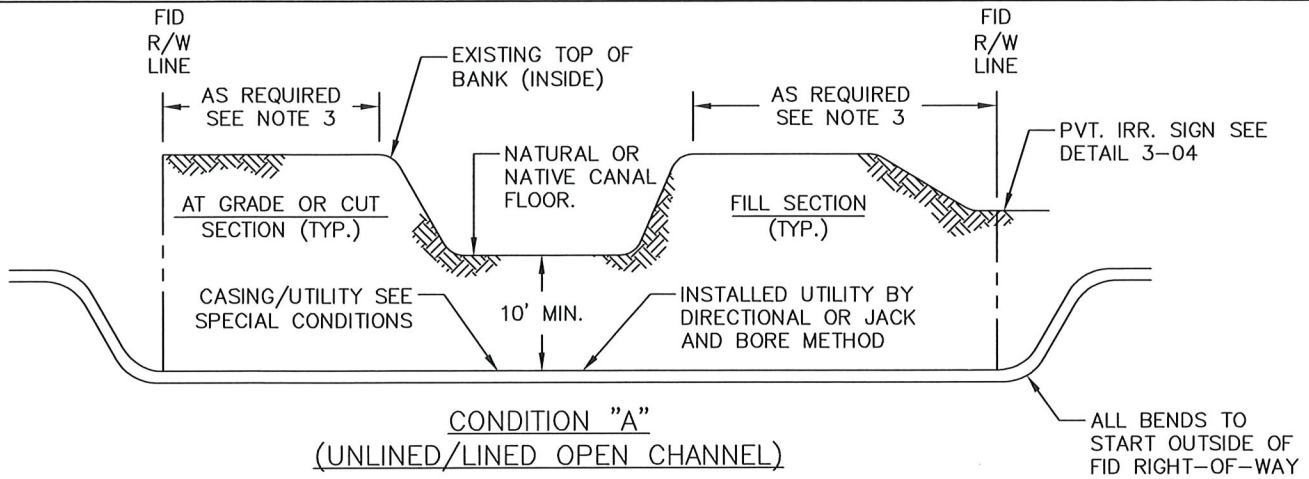
CANAL LINING NOTES

SCALE: NOT TO SCALE  
DATE: JANUARY 2018

STANDARD DETAIL

2-01

SHEET 2 OF 2



**NOTES:**

1. ALL BORING OPERATIONS ARE NOT ALLOWED DURING FID'S IRRIGATION SEASON (TYPICALLY MARCH 1 THROUGH AUGUST 30).
2. FID'S INSPECTOR SHALL BE ON-SITE DURING THE BORE. UTILITY CLEARANCE MUST BE VERIFIED BY FID'S INSPECTOR.
3. REFER TO DETAIL 1-01 FOR RIGHT-OF-WAY REQUIREMENTS, P-06 FOR PIPELINE EASEMENT REQUIREMENTS.
4. FOR SITE SPECIFIC REQUIREMENTS, SEE SPECIAL CONDITIONS ISSUED WITH PERMIT.
5. ALL BORE PITS MUST BE SITUATED OUTSIDE OF FID'S RIGHT-OF-WAY.
6. WET UTILITY CROSSINGS MAY REQUIRE STEEL CASING AS DETERMINED BY FID ENGINEER.



FRESNO IRRIGATION DISTRICT

PIPE CROSSING – BORING CLEARANCE

"Your Most Valuable Resource – Water"

SCALE: NOT TO SCALE

DATE: JANUARY 2018

STANDARD DETAIL

3-01

SHEET 1 OF 2



FRESNO IRRIGATION DISTRICT  
SPECIAL CONDITIONS  
FOR  
JACK & BORE / DIRECTIONAL BORE UTILITY INSTALLATIONS  
(REVISED MARCH 29, 2018)

THE CONTRACTOR IS SUBJECT TO THE CONDITIONS STATED BELOW:

1. FRESNO IRRIGATION DISTRICT'S (FID) ENGINEERING DEPARTMENT, (559) 233-7161, SHALL BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION. NO WORK SHALL BEGIN WITHOUT A 'PERMIT TO WORK WITHIN EASEMENT AND RIGHT-OF-WAY' ISSUED BY FID (INSPECTION FEES ARE ASSESSED AS FOLLOWS: MINIMUM OF \$125.00 PER WEEK (2 ½ HOURS) OR \$50 PER DAY (1 HOUR). IF ADDITIONAL INSPECTION HOURS ARE NECESSARY, THE COST INCURRED WILL BE WITHHELD FROM THE DEPOSIT OR INVOICED TO THE PERMITTEE AT \$50.00 PER HOUR). ALL WORK SHALL BE COMPLETED BY THE DATE SPECIFIED ON THE FID PERMIT, AND THE AREA RESTORED TO ITS ORIGINAL CONDITION. ANY WORK REQUIRED AFTER THE COMPLETION DATE, SHALL BE APPROVED BY FID'S ENGINEER AND ASSESSED A LATE COMPLETION FEE AS SPECIFIED ON THE PERMIT.
2. ALL UTILITY CROSSINGS SHALL BE INSTALLED UNDER FID'S PIPELINE/PIPE CULVERT/CANAL/BOX CULVERT AND MINIMUM CLEARANCE SHALL BE MAINTAINED FOR ENTIRE LENGTH OF RIGHT-OF-WAY.
3. AT LOCATIONS WHERE FID APPROVES UTILITY CROSSINGS OVER FID'S PIPELINE, THE UTILITY SHALL BE BACKFILLED WITH A RED CONCRETE SLURRY MIXTURE. THE SLURRY BACKFILL SHALL CONSIST OF A FLUID, WORKABLE MIXTURE OF AGGREGATE, CEMENT AND WATER. AGGREGATE MATERIAL SHALL BE A DIAMETER OF 1/4-INCH (.25") OR LESS WITH A 2-SACK CEMENT MIX AND 4 POUNDS OF RED DYE PER CUBIC YARD.
4. CONSTRUCTION SHALL NOT INTERFERE WITH THE MAINTENANCE AND/OR OPERATION OF FID'S FACILITY. BORE PITS SHALL BE SITUATED SUCH THAT THEY ARE OUTSIDE FID'S RIGHT-OF-WAY LIMITS. LOCATION OF BORE PITS ARE TO BE CONFIRMED WITH FID'S FIELD INSPECTOR.
5. IF THE FID CANAL IS A MAJOR CONVEYOR OF STORM WATERS, THE ANTICIPATED STORM FLOWS THROUGH THE CANAL MAY REQUIRE CONSTRUCTION TO BE TEMPORARILY SHUT DOWN UNTIL PEAK FLOWS HAVE PASSED. JACK AND BORE AND DIRECTIONAL BORE WILL NOT BE ALLOWED DURING FID'S IRRIGATION SEASON, WHICH USUALLY RUNS MARCH 1 THROUGH AUGUST 31.
6. FID SHALL NOT BE RESPONSIBLE FOR ANY WATER THAT MAY FLOW IN THE IRRIGATION FACILITY OR AREA OF CONSTRUCTION DURING THE TIME OF THE UTILITY INSTALLATION, INCLUDING ANY DAMAGE RESULTING FROM SUCH WATER..
7. CONTRACTOR AND/OR AGENCY SHALL HAVE EQUIPMENT MOBILIZED TO REPAIR DAMAGE IN THE EVENT OF A CANAL BREACH.
8. ALL EXCESS MATERIAL AND/OR DEBRIS SHALL BE REMOVED FROM FID'S EASEMENT AND RIGHT-OF-WAY UPON COMPLETION OF ALL UTILITY INSTALLATION.
9. ALL WORK WITHIN FID'S EASEMENT AND RIGHT-OF-WAY SHALL BE INSPECTED AND APPROVED BY FID'S FIELD INSPECTOR OR ENGINEER BEFORE BACKFILLING CAN OCCUR.
10. ALL WORK SHALL BE COMPLETED BY THE DATE SPECIFIED ON THE FID CONSTRUCTION PERMIT AND THE AREA RESTORED TO ITS ORIGINAL CONDITION. ANY WORK REQUIRED AFTER THE COMPLETION DATE SHALL BE APPROVED BY FID'S ENGINEER AND LIQUATED DAMAGES IN THE AMOUNT OF \$2,500.00 PER DAY WILL BE ASSESSED.
11. IN SITUATIONS WHERE A CASING IS REQUIRED, VOIDS SHALL BE FILLED WITH SUITABLE MATERIAL THROUGH INJECTION POINTS AT A MINIMUM 3 FEET (3') ON CENTER (I.E. SAND, GROUT, ETC.) AND SEALED IN ORDER TO MINIMIZE FLOW THROUGH CASING/VOID SHOULD THE INTEGRITY BE COMPROMISED AS DETERMINED BY FID'S FIELD INSPECTOR. AT A MINIMUM, CASING ENDS SHALL BE SEALED. CASING/VOID GROUT ENDS SHALL BE TERMINATED AT THE EDGE OF FID'S RIGHT-OF-WAY UNLESS APPROVED OTHERWISE.

BORE AND JACK SPECIFIC NOTES:

1. TOP OF BORE PITS SHALL BE A MINIMUM OF ONE-FOOT (1') HIGHER THAN EXISTING HIGH WATER MARK OF THE CANAL. IN ADDITION, BORE PITS SHALL BE DESIGNED TO CONTAIN WATER SHOULD THE CANAL BREACH. ALL BORE PIT BERMS SHALL BE COMPACTED TO 93% RELATIVE COMPACTION.
2. BORE PITS SHALL BE BACKFILLED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED AND ALL DISTURBED SOIL SHALL BE COMPACTED TO A MINIMUM 93% RELATIVE COMPACTION.
3. COMPACTION TESTS SHALL BE PROVIDED TO FID UPON REQUEST BY FID'S ENGINEER.
4. CASING PIPE SHALL BE PROVIDED WITH END SEALS APPROVED BY FID ENGINEER.



FRESNO IRRIGATION DISTRICT

"Your Most Valuable Resource – Water"

PIPE CROSSING  
BORE CLEARANCE NOTES

SCALE: NOT TO SCALE

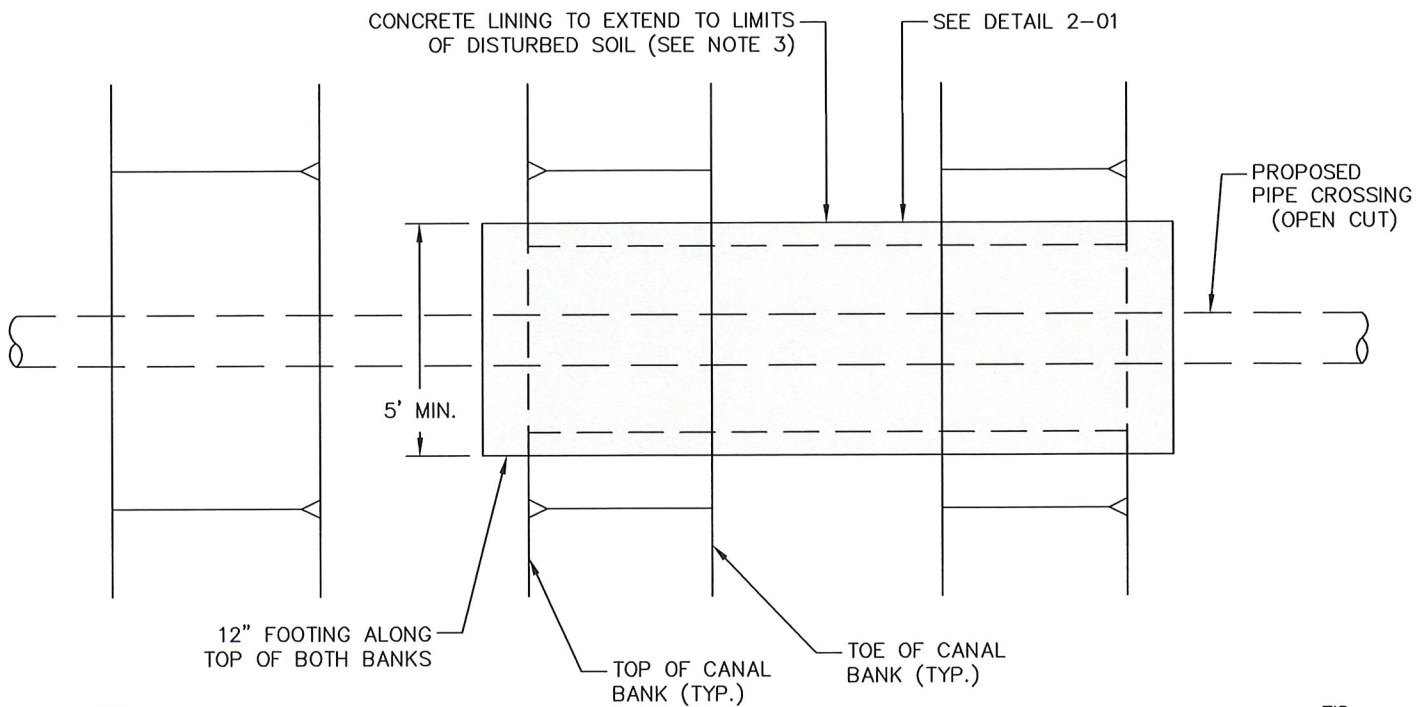
DATE: JANUARY 2018

STANDARD DETAIL

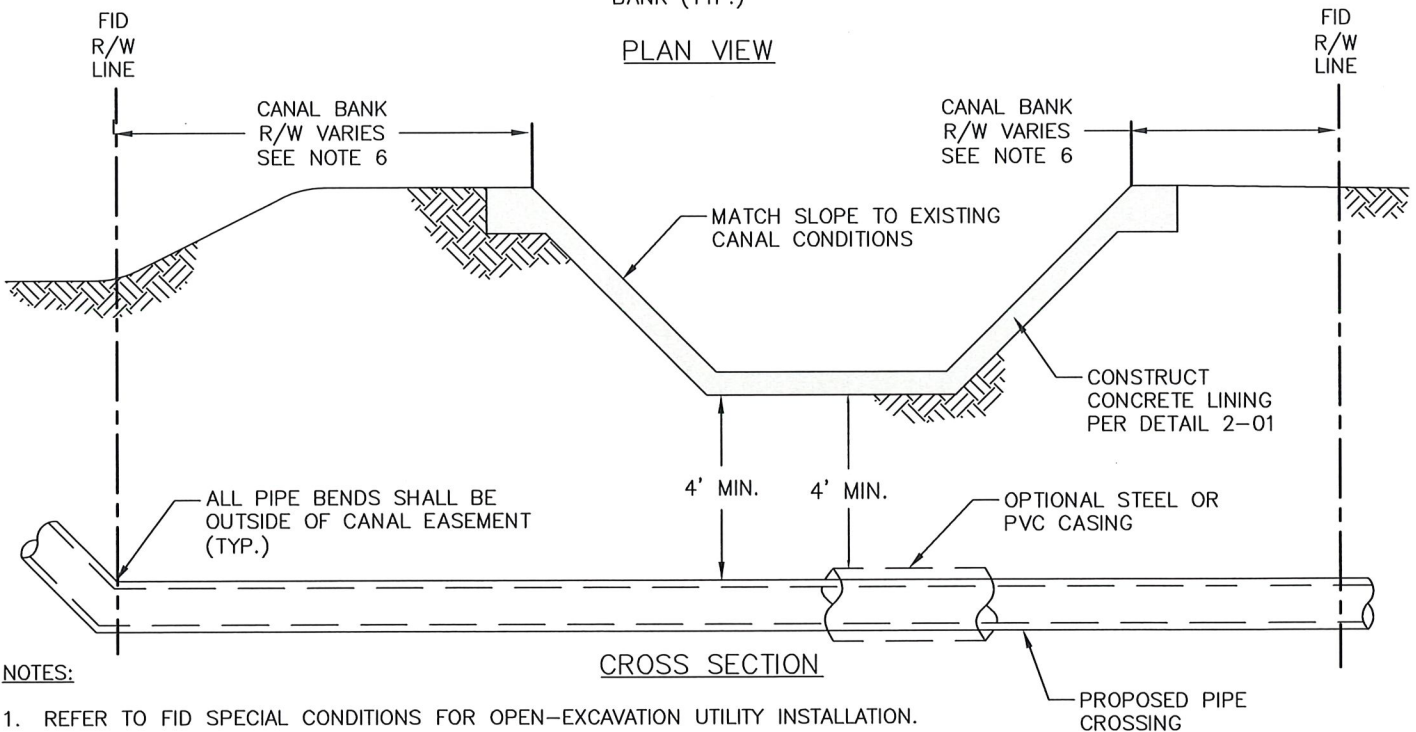
3-01

SHEET 2 OF 2





PLAN VIEW



CROSS SECTION

NOTES:

1. REFER TO FID SPECIAL CONDITIONS FOR OPEN-EXCAVATION UTILITY INSTALLATION.
2. ALL DISTURBED SOIL TO HAVE 93% RELATIVE COMPACTION.
3. FID'S INSPECTOR TO DETERMINE LIMITS OF DISTURBED SOIL.
4. NO BENDS, VENTS OR STRUCTURES TO BE LOCATED WITHIN CANAL RIGHT-OF-WAY.
5. CONCRETE LINING REQUIRED FOR OPEN CUT INSTALLATIONS ONLY.
6. WIDTH OF CANAL BANK RIGHT-OF-WAY SHALL CONFORM TO DETAIL 1-01.
7. THE CONCRETE LINER SHALL NOT BE CONSTRUCTED HIGHER THAN THE FLOOR ELEVATION OF AN EXISTING CULVERT OR CHECK STRUCTURE UPSTREAM OF THE PROPOSED CROSSING AS REQUIRED BY FID ENGINEER.



FRESNO IRRIGATION DISTRICT

"Your Most Valuable Resource - Water"

CANAL CROSSING - OPEN CUT

SCALE: NOT TO SCALE

DATE: JANUARY 2018

STANDARD DETAIL

3-02

SHEET 1 OF 1

## **HERITAGE GROVE PLAN LINES**

### **Design Considerations and Concerns**

#### **Copper Avenue, Willow to the Sunnyside Alignment**

1. Fresno County will soon be constructing a traffic signal at the Auberry intersection.
2. Westbound traffic at the Sunnyside alignment will content with existing power poles, when transitioning from a two-lane County road to a divided four-lane.

#### **International Avenue, Willow to Minnewawa**

1. The segment of Willow Avenue between International and the Enterprise Canal is undefined.
2. Staff has been receiving calls about the planned open space on the south side of International, between Willow and the planned Village Street.
3. Consideration to be made for the existing home in the planned open space on the south side of International, immediately east of the planned Village Street. If the International alignment is shifted north to accommodate the existing home, there would ultimately be added cost due to the increased area.
4. Consideration to be made for the existing homes along International and their close proximity to the ultimate Right-of-Way line.

#### **Behymer Avenue, Willow to the Sunnyside Alignment**

1. Consideration to be made for the existing homes on the north side, where the planned open space is. Is this location appropriate?
2. Consideration to be made for the existing homes along Behymer and their close proximity to the ultimate Right-of-Way line.
3. The ultimate Right-of-Way is avoiding an existing wetland immediately adjacent to the Sunnyside alignment. The Right-of-Way is shift north so that the existing fence line is the southern Right-of-Way. Consideration to be made to conform to the existing County road to the east (a 797.5' transition within the City limits for a speed limit of 50 mph). The alignment transitions westerly back to the existing centerline between the planned Neighborhood Boulevard and the Enterprise Canal.

#### **Minnewawa Avenue, Shepherd to International**

1. Consideration to be made for transitioning the bike lanes south of Shepherd to the planned alignments north of Shepherd, where the bike lanes (north and southbound) are on the west side of Minnewawa.
2. Consideration to be made for the existing homes along Minnewawa and their close proximity to the ultimate Right-of-Way line.
3. Consideration to be made for the planned Neighborhood Boulevard with Canal Trail, when pedestrians are to cross Minnewawa along the Enterprise Canal trail. Two options discussed are (1) a signalized intersection (after meeting warrants), and (2) by sufficiently separating the trail crossing from the Neighborhood Boulevard and installing a high-intensity activated crosswalk beacon (HAWK) at the trail crossing.

#### **Clovis Avenue, Behymer to Copper**

1. The Clovis alignment south of Behymer is set.



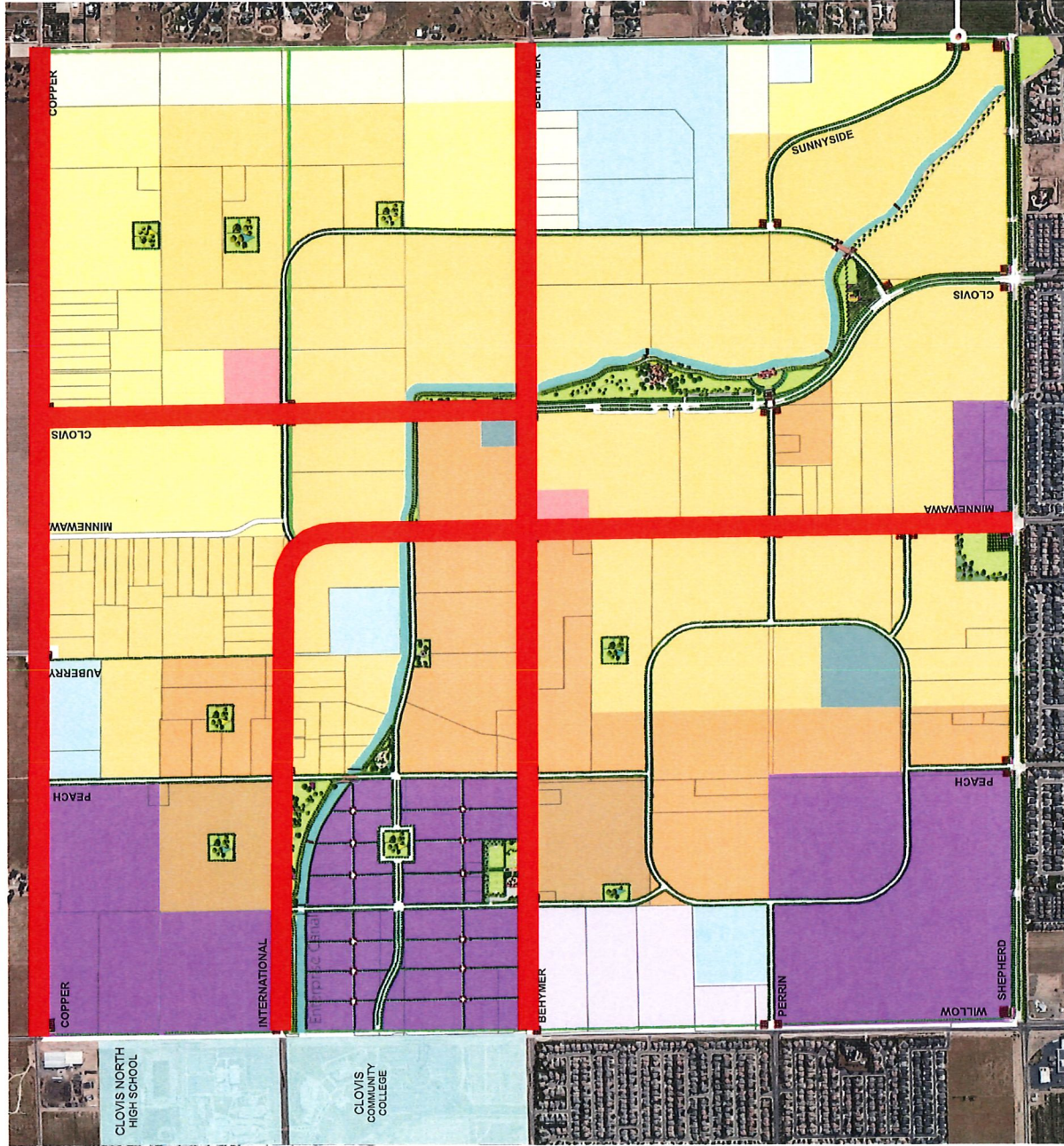
2. Consideration to be made for the planned Neighborhood Boulevard with Canal Trail, when pedestrians are to cross Clovis along the Enterprise Canal trail. Two options discussed are (1) a signalized intersection (after meeting warrants), and (2) by sufficiently separating the trail crossing from the Neighborhood Boulevard and installing a high-intensity activated crosswalk beacon (HAWK) at the trail crossing.
3. The alignment for this segment is set by the existing home at Copper Avenue, and starts on its west property line.

#### International-Minnewawa Connection

1. Consideration to be made for the proposed school on the east side of Minnewawa, south of the International alignment.
2. Initial concept is to install a roundabout at each tee intersection (two total)
3. Consideration to be made for offsite street parking for the proposed school.
4. In general (although discussed with this exhibit), consideration to be made for the Fire-required 14' vertical clearance with the trees as conceptualized in the street cross-sections.
5. This connection to be discussed with the school district.



Street Segments  
to be discussed



LAND USE:

- RR - Rural Residential (1 DU/2 AC)
- VL - Very Low Density Residential (0.6-2.0 DU/AC)
- L - Low Density Residential (2.1-4.0 DU/AC)
- MU-V - Mixed Use Village
- MU-BC - Mixed Use/Business Campus
- NC - Neighborhood Commercial
- S - School
- M - Medium Density Residential (4.1-7.0 DU/AC)
- MH - Medium High Density Residential (7.1-15.0 DU/AC)
- H - High Density Residential (15.1-25.0 DU/AC)
- P - Public/Quasi-Public Facilities
- PK - Park
- W - Water

LEGEND:

- PARKS / OPEN SPACE
- INTERIOR GATEWAY
- COMMUNITY GATEWAY
- CORNER GATEWAY
- CANAL
- TRAIL AT CANAL
- COMMUNITY TRAIL
- ROUNDABOUT







# Copper Avenue

Willow to  
Sunnyside

1" = 100'



8/3/2020







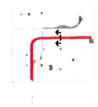
International Avenue

Willow to  
Minnewawa

1" = 100'



8/3/2020







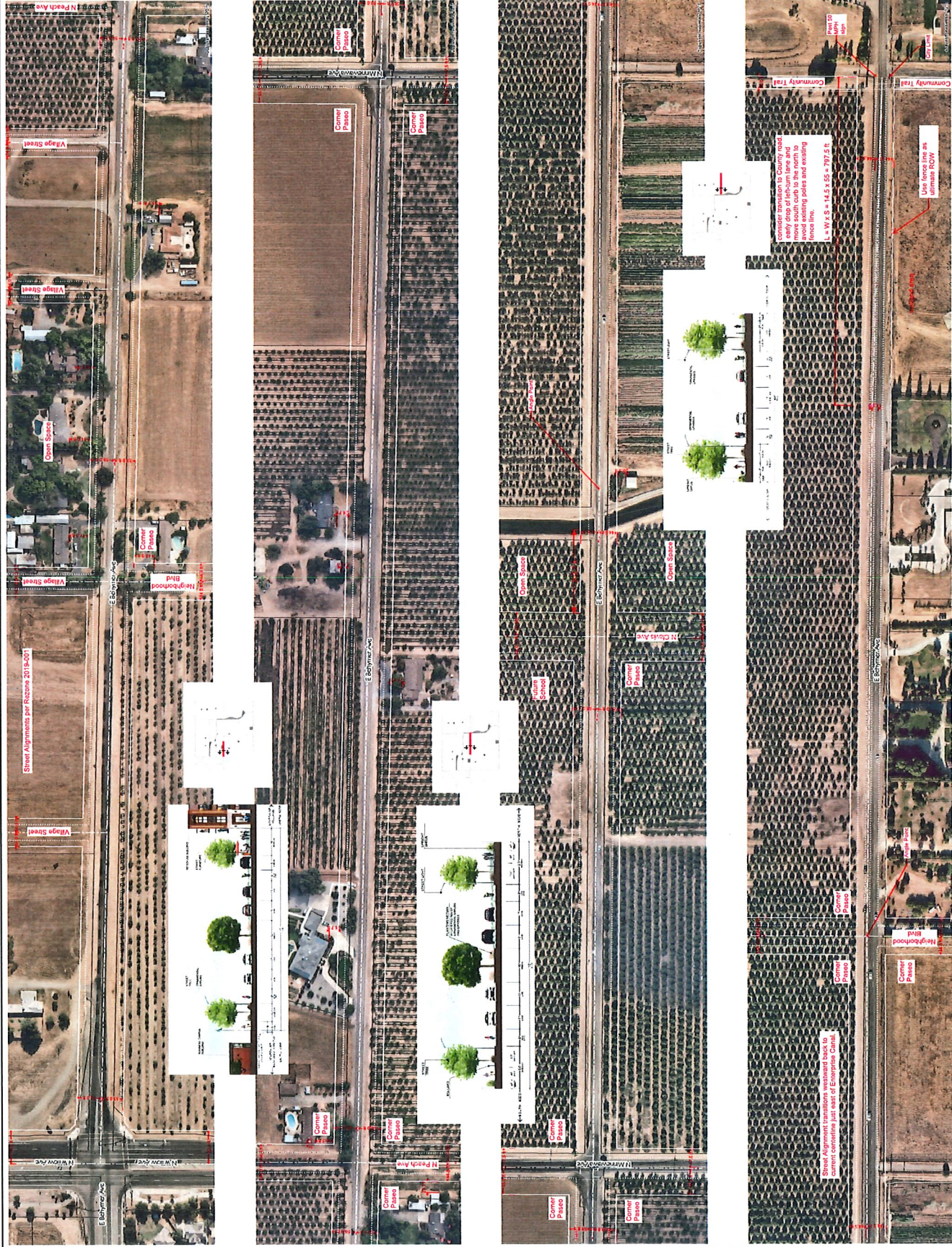
Behymer Avenue

Willow to  
Sunnyside

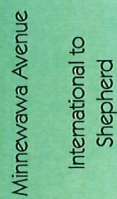
1" = 100'



8/3/2020



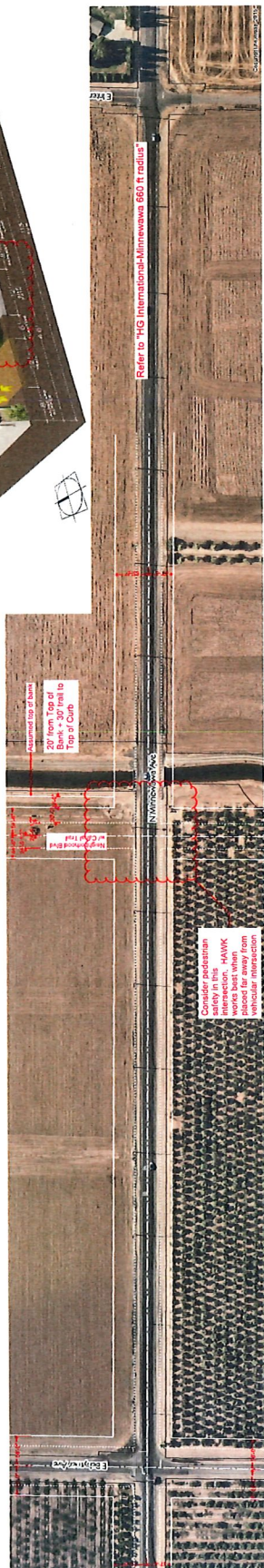


 $1'' = 100'$ 

8/3/2020



consider (northbound) bike lane configuration at Shepherd.



Refer to "HG International-Minnewawa 660 ft radius"

Assumed top of bank  
20' from Top of  
Bank + 30' trail to

Consider pedestrian safety in this intersection. HAWK works best when placed far away from vehicular intersection



Future signage for bike transition



$1^{\circ} = 100'$ 

8/3/2020

