

# WILSON TANK DEVELOPMENT PLAN (MAJOR MODIFICATION)

6560 ALABASTER WAY  
CITY OF COLORADO SPRINGS, STATE OF COLORADO  
TSN: 7315200003

**GENERAL NOTES:**

1. THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATIONS, AND THE PROPOSED PLAN REFLECTS REQUIRED ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY THE CITY OF COLORADO SPRINGS DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS. SOLE RESPONSIBILITY FOR COMPLIANCE WITH FEDERAL AND STATE ACCESSIBILITY LAWS LIES WITH THE PROPERTY OWNER.
2. PROPERTY OWNERS ARE RESPONSIBLE FOR THE MAINTENANCE FOR SHARED COMMON TRACTS, ACCESS DRIVES, PRESERVATION AREAS, AND LANDSCAPE AREAS ADJACENT TO THEIR PROPERTY.
3. THE PROPERTY IS SUBJECT TO THE HILLSIDE OVERLAY DISTRICT.
4. TANK STRUCTURAL DESIGN WILL BE PERFORMED AT A LATER DATE BY CONTRACTOR SELECTED DURING BID PROCESS. ALL TANK MEASUREMENTS HEREIN ARE ESTIMATES.
5. UNLESS OTHERWISE NOTED, WORKING HOURS SHALL BE FROM 7:00AM TO 5:30PM, MONDAY THROUGH FRIDAY. NO WEEKEND WORK WILL BE ALLOWED UNLESS APPROVED BY UTILITIES. THIS APPLIES TO THE ENTIRE SITE PLUS THE ENTRANCE AREA OFF OF SCEPTOR WAY.
6. LANDSCAPE IMPROVEMENTS AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF OWNER, AND/OR THEIR ASSIGNS.
7. FINAL TANK COLOR IS REQUIRED TO BE AN ENVIRONMENTAL COLOR THAT BLENDS WITH THE DOMINANT LANDSCAPE COLOR. THE DOMINANT LANDSCAPE FOR THIS SITE IS THE FOOTHILLS TO THE WEST OF THE PROJECT SITE. FINAL COLOR SELECTION SHALL BE COORDINATED BETWEEN COLORADO SPRINGS UTILITIES AND CITY PLANNING PRIOR TO OR DURING TANK CONSTRUCTION.

**FEMA CLASSIFICATION**

THIS PROPERTY IS LOCATED WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN) PER FEMA FLOOD INSURANCE RATE MAP NUMBER 08041C0492G, DATED 12/07/2018.

**GEOLOGIC HAZARD DISCLOSURE STATEMENT**

THIS PROPERTY IS SUBJECT TO THE FINDINGS, SUMMARY AND CONCLUSIONS OF A GEOLOGIC HAZARD REPORT PREPARED BY TERRACON DATED JULY 29, 2021 (REVISED NOVEMBER 18, 2021), WHICH IDENTIFIED THE FOLLOWING SPECIFIC GEOLOGIC HAZARD ON THE PROPERTY (6570 ALABASTER WAY - TO BE PLATTED AS LOT 1, WILSON TANK SITE, COLORADO SPRINGS, CO.): POTENTIAL TO ENCOUNTER LOCALIZED MAN-MADE SLOPE INSTABILITY AND STEEPING DIPPING BEDROCK WITHIN FOUNDATION BEARING ELEVATIONS. A COPY OF SAID REPORT HAS BEEN PLACED WITHIN FILE # AR DP 21-00526 AND AR FP 21-00527 OF THE CITY OF COLORADO SPRINGS PLANNING AND DEVELOPMENT TEAM. CONTACT THE PLANNING AND DEVELOPMENT TEAM, 30 SOUTH NEVADA AVE., SUITE 105, COLORADO SPRINGS, CO IF YOU WOULD LIKE TO REVIEW SAID REPORT.

**LAND AREA:**

3.63 AC OR 157,984 SQ FT

**SITE DATA**

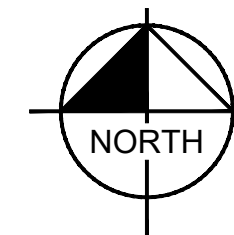
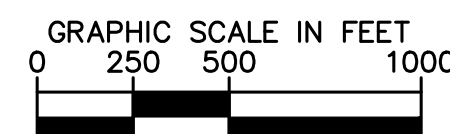
SITE AREA: 3.63± AC (157,984 SF)  
 ZONING CLASSIFICATION: PF HS (PUBLIC FACILITY, HILLSIDE OVERLAY)  
 LAND USE: PUBLIC FACILITY  
 JURISDICTION: CITY OF COLORADO SPRINGS  
 SITE ADDRESS: 6560 ALABASTER WAY  
 TAX SCHEDULE NO.: 7315200003  
 BUILDING SETBACKS: 0' FRONT SETBACK  
 0' SIDE SETBACK  
 0' REAR SETBACK  
 MAXIMUM LOT COVERAGE: N/A  
 PROPOSED EASEMENTS: NONE  
 LANDSCAPE SETBACKS: 15' ALONG EAST PROPERTY LINE ADJACENT TO EXISTING SINGLE FAMILY HOMES  
 SITE COVERAGE: BUILDING 25%±  
 DRAINAGE BASIN: DOUGLAS CREEK  
 EXISTING CITY FILE NUMBER: AR DP 21-00526

**DISTURBANCE AREA**

THE DISTURBANCE AREA OF THE PROJECT IS 2.5 ACRES.



**VICINITY MAP**



Sheet Number	Sheet Title
1 OF 12	COVER AND TITLE SHEET
2 OF 12	DEMOLITION AND SITE PLAN
3 OF 12	CONSTRUCTION ACCESS PLAN
4 OF 12	GRADING AND DRAINAGE PLAN
5 OF 12	PRELIMINARY UTILITY AND PUBLIC FACILITY PLAN
6 OF 12	FINAL LANDSCAPE PLAN
7 OF 12	LANDSCAPE NOTES AND DETAILS
8 OF 12	TREE PROTECTION DETAILS
9 OF 12	IRRIGATION PLAN
10 OF 12	IRRIGATION NOTES AND DETAILS
11 OF 12	HILLSIDE OVERLAY SITE PLAN
12 OF 12	TANK ELEVATION

**DESIGN TEAM CONTACTS:**

COLORADO SPRINGS UTILITIES PROJECT MANAGER  
 BRYAN GIMBEL, PMP  
 COLORADO SPRINGS UTILITIES  
 1521 HANCOCK EXPRESSWAY, MAIL CODE 1812  
 COLORADO SPRINGS, CO 80903

ENGINEER  
 KIMLEY-HORN AND ASSOCIATES, INC.  
 2 NORTH NEVADA AVENUE, SUITE 300  
 COLORADO SPRINGS, CO 80903  
 TEL: (719) 453-0180  
 CONTACT: ADAM MONCHAK, P.E., PMP

**AGENCY CONTACTS:**

COLORADO SPRINGS UTILITIES:  
 1521 HANCOCK EXPRESSWAY, MAIL CODE 1812  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.668.8769

CITY OF COLORADO SPRINGS ENGINEERING:  
 30 SOUTH NEVADA AVENUE, SUITE 401  
 COLORADO SPRINGS, CO 80901  
 PHONE: 719.385.5918

**BENCHMARK:**

ELEVATIONS ARE BASED UPON COLORADO SPRINGS UTILITIES FIMS VERTICAL COLORADO SPRINGS UTILITIES FIMS VERTICAL CONTROL POINT "MS09", DESCRIBED AS 2" DIAMETER ALUMINUM CAP STAMPED "CSU FIMS CONTROL MS09" ON THE TOP OF THE CURB ON THE EAST SIDE OF ROSSMERE STREET, APPROX. 35' NORTH OF THE CENTERLINE OF BROGAN BLUFF DR. AND LOCATED APPROX. 1350' EAST OF THE SUBJECT PARCEL. THE ELEVATION OF SAID CONTROL POINT IS 6999.61, NVGD 29 VERTICAL DATUM.

**LEGAL DESCRIPTION:**

A PORTION OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 13 SOUTH, RANGE 67 WEST OF THE 6TH P.M., DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT WHENCE THE NORTHWEST CORNER OF SAID SECTION 15 BEARS NORTH 27'39" WEST A DISTANCE OF 1422.4 FEET; THENCE SOUTH 480 FEET; THENCE WEST 330 FEET; THENCE NORTH 480 FEET; THENCE EAST 330 FEET TO THE POINT OF BEGINNING, COUNTY OF EL PASO, STATE OF COLORADO.  
 (PER THE WARRANTY DEED RECORDED UNDER BOOK 1833 PAGE 46, RECORDS OF EL PASO COUNTY) CONTAINING A CALCULATED AREA OF 157,984 SQUARE FEET (3.63 ACRES) OF LAND, MORE OR LESS.

**BASIS OF BEARING:**

BEARINGS ARE BASED UPON THE WEST LINE OF THE SUBJECT PARCEL MONUMENTED AT BOTH ENDS WITH A 5/8" REBAR, AND IS ASSUMED TO BEAR N 00°24'28" W, A FIELD MEASURED DISTANCE OF 479.40 FEET.

**BUILDING DATA**

EXISTING TOTAL GROSS BUILDING AREA: 21,253 S.F.  
 TANK HEIGHT: 60 FT  
 PROPOSED LOT COVERAGE: 25% ±

**APPROXIMATE SCHEDULE OF DEVELOPMENT**

TANK CONSTRUCTION WILL TAKE PLACE IN 2023

**PURPOSE OF MAJOR MODIFICATION**

THE PURPOSE OF THE MAJOR MODIFICATION IS TO RECONCILE THE FINAL TANK HEIGHT AND MAKE ADJUSTMENTS TO THE LANDSCAPE PLAN TO IMPROVE SCREENING.

THE APPROVED DEVELOPMENT PLAN SHEET 12 OF 12 INDICATES ESTIMATED TANK HEIGHTS TO BE FINALIZED DURING STRUCTURAL DESIGN. FINAL TANK HEIGHTS SUBMITTED WITHIN THIS MODIFICATION ARE PER FINAL STRUCTURAL DESIGN

LANDSCAPING AND ASSOCIATED IRRIGATION ADJUSTMENTS ARE INCLUDED IN THIS MAJOR MODIFICATION AND CONSIST OF THE ADDITION OF VARYING PLANT SPECIES AND HEIGHTS AND ASSOCIATED IRRIGATION.

CITY FILE NUMBER	CHANGES TO PLANS	APPROVAL DATE
AR DP 21-00526	ORIGINAL DEVELOPMENT PLAN	6/21/2022
DEPN-23-0157	MAJOR MODIFICATION FOR TANK HEIGHT, LANDSCAPING, AND IRRIGATION ADJUSTMENTS	

**CITY APPROVAL:**

MAJOR MODIFICATION RESUBMITTED: 9/15/2023

SHEET TITLE

COVER AND TITLE SHEET

---

SHEET NUMBER

1 OF 12



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
 2 NORTH NEVADA AVENUE, SUITE 900  
 COLORADO SPRINGS, COLORADO 80903 (719) 284-7297

k:\cos\_watresources\196030007\_wilson\_tank\_design\CADD\plansheets\development\plan\196030007\_Site Plan.dwg

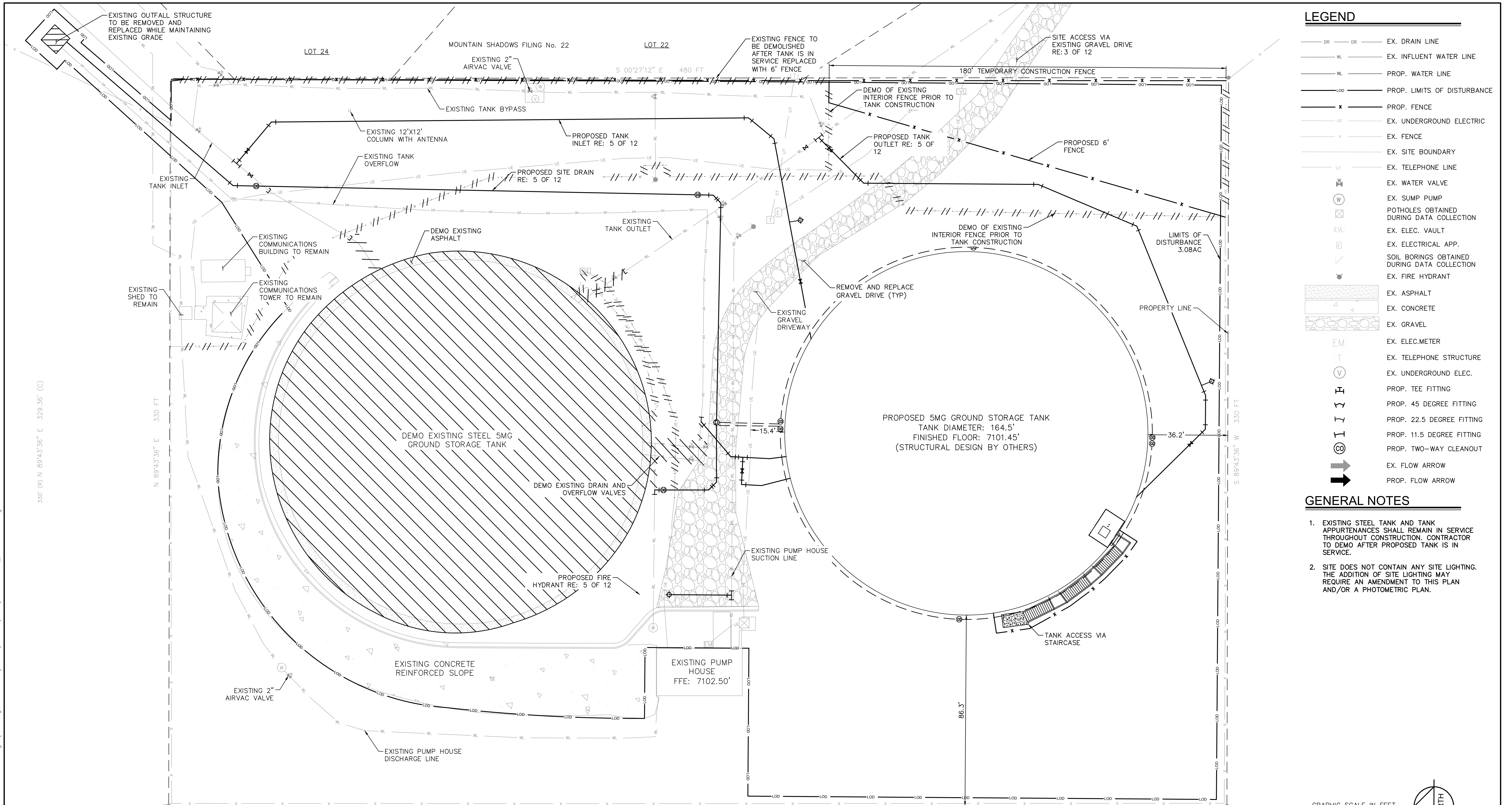
330' (E) N 89°43'36" E 329.36' (C)

N 89°43'36" E 330 FT

S 89°43'36" W 330 FT

N 00°24'28" W 480 FT

86.3'

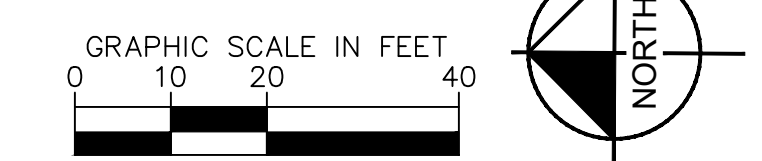


**LEGEND**

	EX. DRAIN LINE
	EX. INFLUENT WATER LINE
	PROP. WATER LINE
	PROP. LIMITS OF DISTURBANCE
	PROP. FENCE
	EX. UNDERGROUND ELECTRIC
	EX. FENCE
	EX. SITE BOUNDARY
	EX. TELEPHONE LINE
	EX. WATER VALVE
	EX. SUMP PUMP
	POTHOLES OBTAINED DURING DATA COLLECTION
	EX. ELEC. VAULT
	EX. ELECTRICAL APP.
	SOIL BORINGS OBTAINED DURING DATA COLLECTION
	EX. FIRE HYDRANT
	EX. ASPHALT
	EX. CONCRETE
	EX. GRAVEL
	EX. ELEC. METER
	EX. TELEPHONE STRUCTURE
	EX. UNDERGROUND ELEC.
	PROP. TEE FITTING
	PROP. 45 DEGREE FITTING
	PROP. 22.5 DEGREE FITTING
	PROP. 11.5 DEGREE FITTING
	PROP. TWO-WAY CLEANOUT
	EX. FLOW ARROW
	PROP. FLOW ARROW

**GENERAL NOTES**

1. EXISTING STEEL TANK AND TANK APPURTENANCES SHALL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. CONTRACTOR TO DEMO AFTER PROPOSED TANK IS IN SERVICE.
2. SITE DOES NOT CONTAIN ANY SITE LIGHTING. THE ADDITION OF SITE LIGHTING MAY REQUIRE AN AMENDMENT TO THIS PLAN AND/OR A PHOTOMETRIC PLAN.

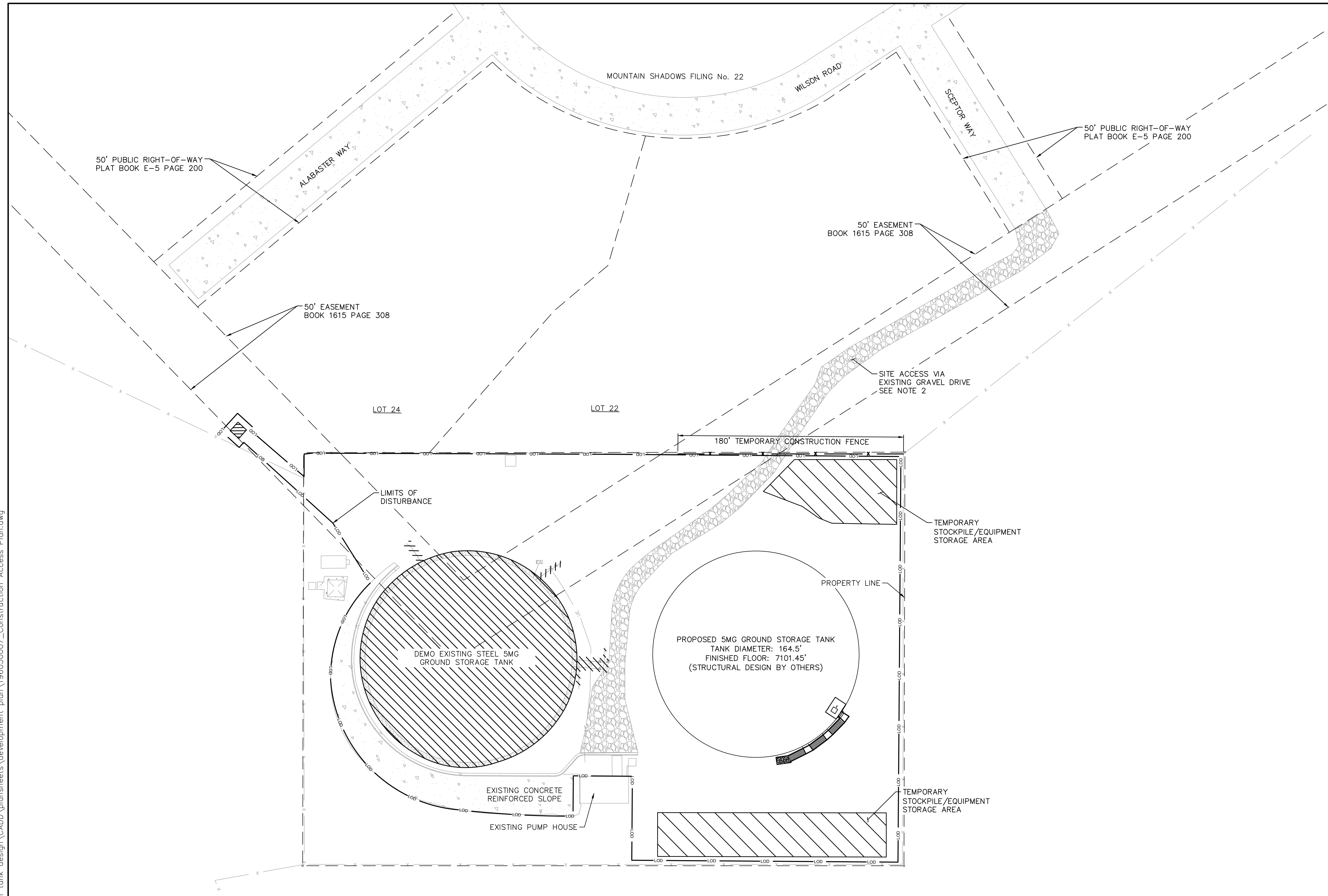


SHEET TITLE  
**DEMOLITION AND SITE PLAN**

SHEET NUMBER  
**2 OF 12**

CITY APPROVAL:

k:\cos\_watresources\196030007\_wilson tank design\CADD\plansheets\development plan\196030007\_Construction Access Plan.dwg



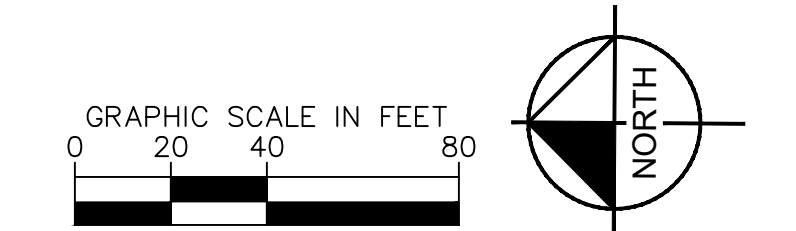
### LEGEND

— DR — DR —	EX. DRAIN LINE
— WL —	EX. INFLUENT WATER LINE
— WL —	PROP. WATER LINE
— LDD —	PROP. LIMITS OF DISTURBANCE
— X —	PROP. FENCE
— UE —	EX. UNDERGROUND ELECTRIC
— X —	EX. FENCE
—	EX. SITE BOUNDARY
— UT —	EX. TELEPHONE LINE
⊕	EX. WATER VALVE
⊙	EX. SUMP PUMP
⊗	POTHOLES OBTAINED DURING DATA COLLECTION
EV	EX. ELEC. VAULT
Ⓜ	EX. ELECTRICAL APP.
✓	SOIL BORINGS OBTAINED DURING DATA COLLECTION
⊕	EX. FIRE HYDRANT
▨	EX. ASPHALT
▩	EX. CONCRETE
▧	EX. GRAVEL
EM	EX. ELEC. METER
T	EX. TELEPHONE STRUCTURE
⓪	EX. UNDERGROUND ELEC.
⊥	PROP. TEE FITTING
⌒	PROP. 45 DEGREE FITTING
⌒	PROP. 22.5 DEGREE FITTING
⌒	PROP. 11.5 DEGREE FITTING
⓪	PROP. TWO-WAY CLEANOUT
→	EX. FLOW ARROW
→	PROP. FLOW ARROW

### GENERAL NOTES

1. INTERIOR FENCE TO BE DEMOLISHED PRIOR TO CONSTRUCTION. TEMPORARY FENCING TO BE PLACED DURING CONSTRUCTION.
2. ACCESS ROAD TO BE REPAIRED UPON COMPLETION OF CONSTRUCTION.
3. NO OFFSITE PARKING. ALL PARKING DURING CONSTRUCTION MUST BE WITHIN THE PROPERTY BOUNDARY.
4. ACCESS TO OPERATE EXISTING VALVES, PUMP STATION, AND TANK APPURTENANCES MUST BE MAINTAINED THROUGHOUT CONSTRUCTION
5. SITE DOES NOT CONTAIN ANY SITE LIGHTING. THE ADDITION OF SITE LIGHTING MAY REQUIRE AN AMENDMENT TO THIS PLAN AND/OR A PHOTOMETRIC PLAN.

CITY APPROVAL:



SHEET TITLE

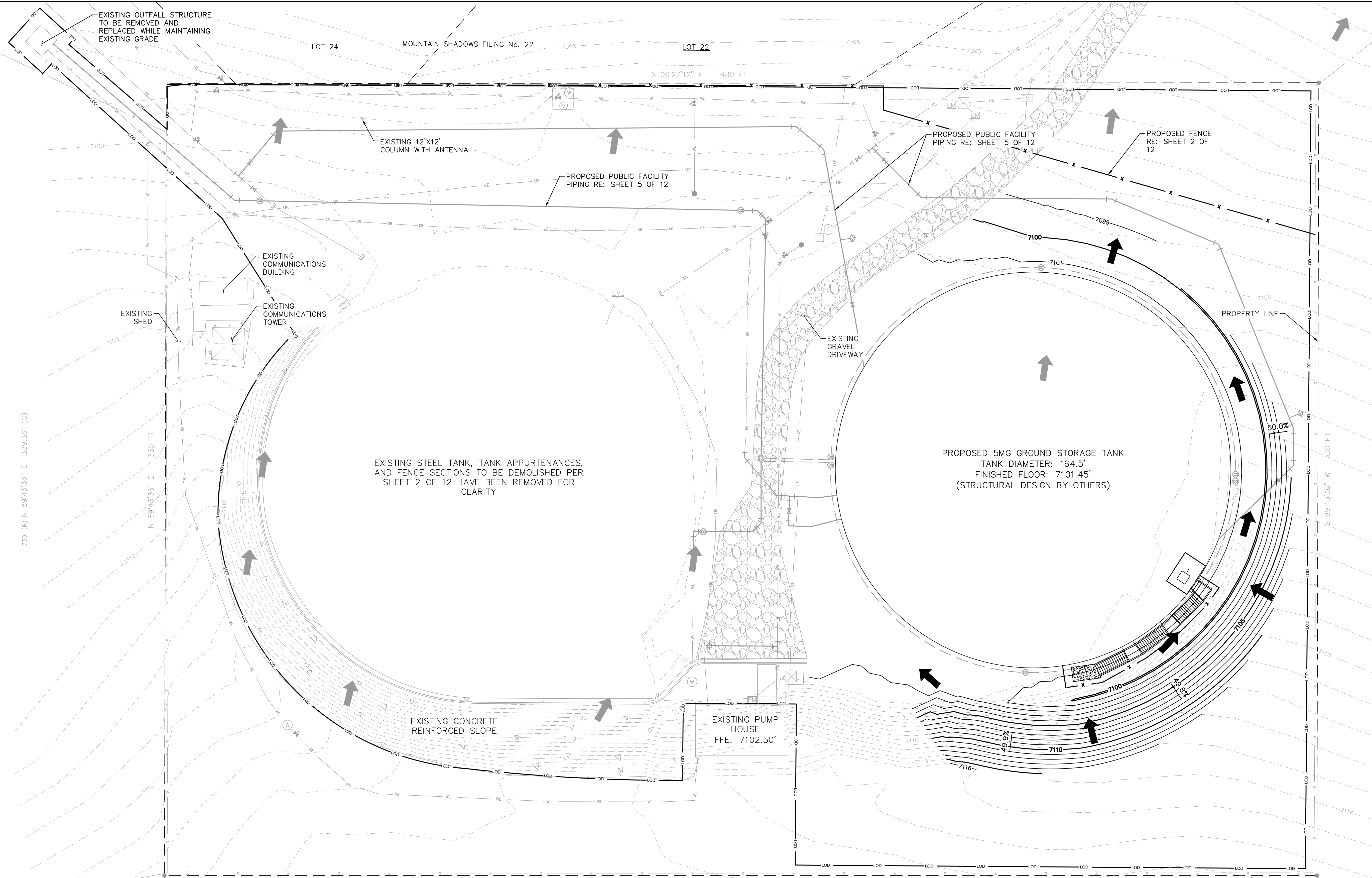
**CONSTRUCTION ACCESS PLAN**

---

SHEET NUMBER

**3 OF 12**

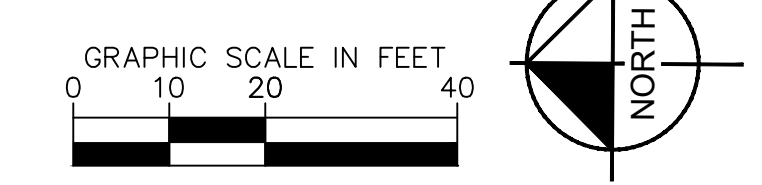
k:\cos\_watresources\196030007\_wilson\_tank\_design\CADD\plansheets\development\_plan\196030007\_Grading&Drainage.dwg



LEGEND	
— DR — DR —	EX. DRAIN LINE
— WL — WL —	EX. INFLUENT WATER LINE
— WL — WL —	PROP. WATER LINE
— LDD — LDD —	PROP. LIMITS OF DISTURBANCE
— X — X —	PROP. FENCE
— UE — UE —	EX. UNDERGROUND ELECTRIC
— X — X —	EX. FENCE
—	EX. SITE BOUNDARY
— UT — UT —	EX. TELEPHONE LINE
⊕	EX. WATER VALVE
⊕	EX. SUMP PUMP
⊕	POTHOLES OBTAINED DURING DATA COLLECTION
⊕	EX. ELEC. VAULT
⊕	EX. ELECTRICAL APP.
⊕	SOIL BORINGS OBTAINED DURING DATA COLLECTION
⊕	EX. FIRE HYDRANT
⊕	EX. ASPHALT
⊕	EX. CONCRETE
⊕	EX. GRAVEL
EM	EX. ELEC. METER
T	EX. TELEPHONE STRUCTURE
V	EX. UNDERGROUND ELEC.
H	PROP. TEE FITTING
∩	PROP. 45 DEGREE FITTING
∩	PROP. 22.5 DEGREE FITTING
∩	PROP. 11.5 DEGREE FITTING
⊕	PROP. TWO-WAY CLEANOUT
→	EX. FLOW ARROW
→	PROP. FLOW ARROW

- GENERAL NOTES**
1. THIS PLAN SHEET REPRESENTS THE FINAL SITE CONDITION. EXISTING ITEMS TO BE DEMOLISHED PER SHEET 2 OF 12 HAVE BEEN REMOVED FOR CLARITY.
  2. SITE DOES NOT CONTAIN ANY SITE LIGHTING. THE ADDITION OF SITE LIGHTING MAY REQUIRE AN AMENDMENT TO THIS PLAN AND/OR A PHOTOMETRIC PLAN.

CITY APPROVAL:



SHEET TITLE	<b>GRADING AND DRAINAGE PLAN</b>
SHEET NUMBER	<b>4 OF 12</b>

**PRELIMINARY UTILITY PLAN NOTES**

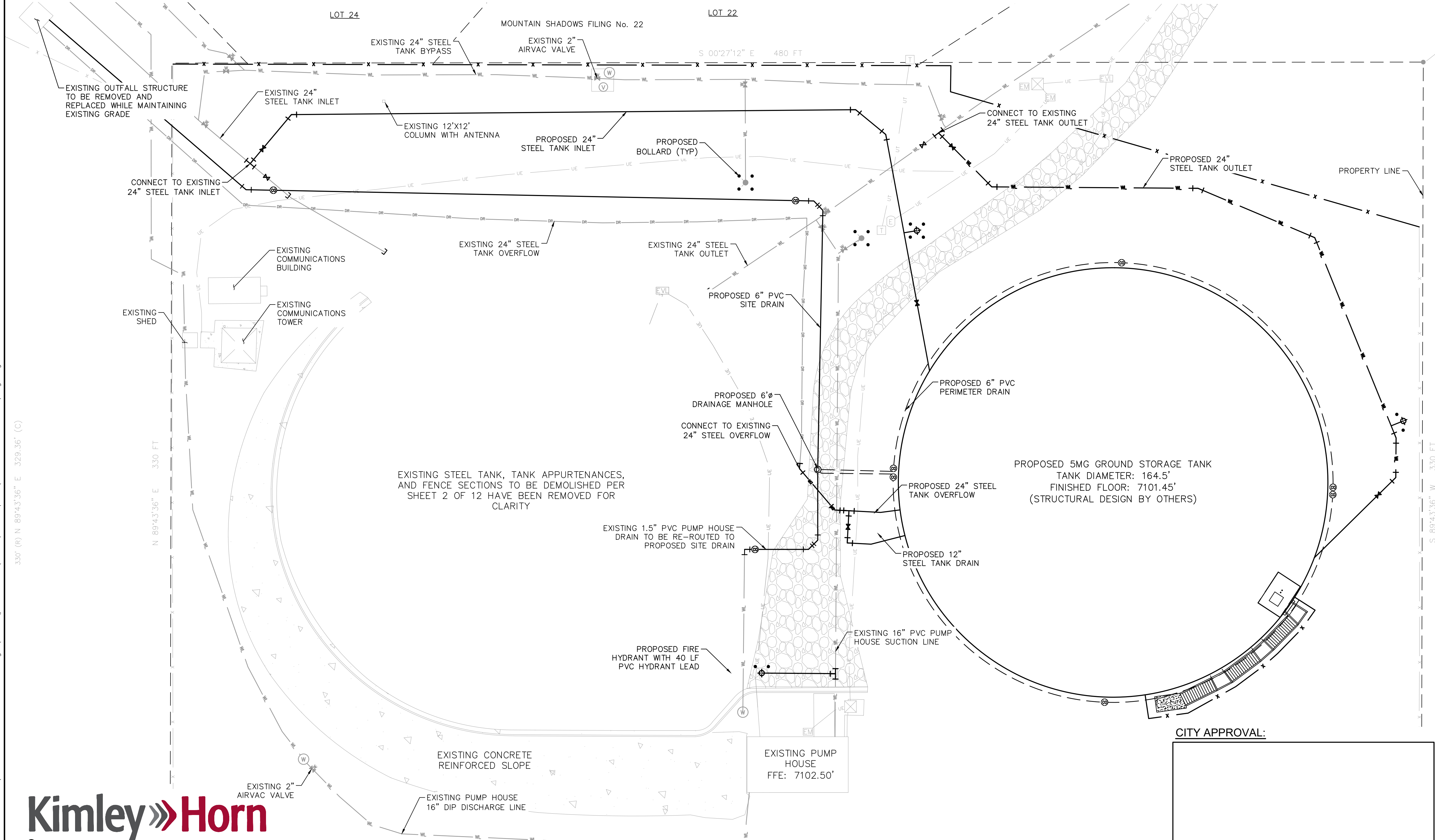
- PROPERTY OWNER(S) ACKNOWLEDGE AND AGREE TO THE FOLLOWING UPON APPROVAL OF PRELIMINARY UTILITY PLAN:
- COLORADO SPRINGS UTILITIES (SPRINGS UTILITIES) SHALL MAKE THE FINAL DETERMINATION OF THE LOCATION OF ALL WATER, WASTEWATER, ELECTRIC AND GAS FACILITIES, WHICH MAY NOT BE THE SAME AS SHOWN ON THIS PRELIMINARY UTILITY PLAN.
  - PROPERTY OWNER(S) ("OWNER") ACKNOWLEDGES THAT THE CONNECTION AND/OR EXTENSION OF UTILITY SERVICES TO THE PROPERTY IDENTIFIED IN THIS PRELIMINARY UTILITY PLAN ("PROPERTY") SHALL BE IN ACCORD WITH ALL APPLICABLE CODES AND REGULATIONS, SPRINGS UTILITIES LINE EXTENSION & SERVICE STANDARDS ("STANDARDS"), TARIFFS, COLORADO SPRINGS CITY CODE, RESOLUTIONS, AND POLICIES, AND PIKES PEAK REGIONAL BUILDING DEPARTMENT CODES, IN EFFECT AT THE TIME OF UTILITY SERVICE CONNECTION AND/OR EXTENSION.
  - OWNER ACKNOWLEDGES RESPONSIBILITY FOR THE COSTS OF EXTENSIONS OR UTILITY SYSTEM IMPROVEMENTS THAT SPRINGS UTILITIES DETERMINES NECESSARY TO PROVIDE UTILITY SERVICES TO THE PROPERTY OR TO ENSURE TIMELY DEVELOPMENT OF INTEGRATED UTILITY SYSTEMS SERVING THE PROPERTY AND AREAS OUTSIDE THE PROPERTY (INCLUDING THE COSTS TO DESIGN AND INSTALL WATER SYSTEMS, WASTEWATER COLLECTION SYSTEMS, AND ANY GAS OR ELECTRIC LINES TO AND WITHIN THE PROPERTY). OWNER MAY BE ELIGIBLE FOR A COST RECOVERY AGREEMENT AS PROVIDED IN UTILITIES' RULES AND REGULATIONS.
  - SPRINGS UTILITIES UTILITY SERVICES ARE AVAILABLE ON A "FIRST-COME, FIRST-SERVED" BASIS, AND THEREFORE NO SPECIFIC ALLOCATIONS OR AMOUNTS OF UTILITY SERVICES, FACILITIES, CAPACITIES OR

- THE RELOCATION OR ALTERATION OF ANY EXISTING UTILITY FACILITIES WITHIN THE PROPERTY WILL BE AT THE OWNER'S SOLE COST AND EXPENSE. IF SPRINGS UTILITIES DETERMINE THAT OWNER'S RELOCATION OR ALTERATION REQUIRES NEW OR UPDATED EASEMENTS, OWNER SHALL CONVEY THOSE EASEMENTS PRIOR TO RELOCATING OR ALTERING THE EXISTING UTILITY FACILITIES.
- OWNER SHALL DEDICATE BY PLAT AND/OR CONVEY BY RECORDED DOCUMENT, ALL PROPERTY AND EASEMENTS THAT SPRINGS UTILITIES DETERMINES ARE REQUIRED FOR ALL UTILITY SYSTEM FACILITIES NECESSARY TO SERVE THE PROPERTY OR TO ENSURE DEVELOPMENT OF AN INTEGRATED UTILITY SYSTEM. ALL EASEMENTS GRANTED BY SEPARATE INSTRUMENT SHALL UTILIZE SPRINGS UTILITIES' THEN-CURRENT PERMANENT EASEMENT AGREEMENT FORM.
- THE WATER SYSTEM FACILITIES MUST MEET SPRINGS UTILITIES CRITERIA FOR WATER QUALITY, RELIABILITY AND PRESSURE, INCLUDING LOOPING REQUIREMENTS (SEE SPRINGS UTILITIES LINE EXTENSION AND SERVICE STANDARDS).
- OWNER RECOGNIZES THAT THE EXTENSION OF WATER SYSTEM FACILITIES MAY AFFECT THE QUALITY OF WATER IN THE SPRINGS UTILITIES WATER SYSTEM. WHEN WATER QUALITY IS AFFECTED, OWNER ACKNOWLEDGES RESPONSIBILITY FOR ANY COSTS THAT SPRINGS UTILITIES DETERMINES NECESSARY IN ORDER TO MAINTAIN WATER QUALITY IN ITS SYSTEM AS A RESULT OF OWNER'S WATER SYSTEM EXTENSIONS. OWNER MAY BE REQUIRED TO SUBMIT A WATER QUALITY PLAN FOR THE PROJECT.

- OWNER MUST CONTACT SPRINGS UTILITIES FIELD ENGINEERING TO DETERMINE THE LOCATION OF ALL NATURAL GAS AND ELECTRIC METERS AND TRANSFORMERS AND TO SECURE APPROVAL OF GAS-SERVICE-LINE PRESSURES IN EXCESS OF SPRINGS UTILITIES STANDARD GAS SYSTEM PRESSURE. (CONTACT FIELD ENGINEERING NORTH 668-4985 OR SOUTH 668-5564).
- IT SHALL NOT BE PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH WITHIN ANY SPRINGS UTILITIES EASEMENT OR RIGHTS OF WAY WITHOUT THE WRITTEN APPROVAL OF SPRINGS UTILITIES. IMPROVEMENTS, STRUCTURES AND TREES SHALL NOT BE LOCATED WITHIN UTILITY EASEMENT, SHALL NOT VIOLATE NATIONAL ELECTRIC SAFETY CODE (NEC) PROVISIONS AND CLEARANCES, AND SHALL NOT IMPAIR ACCESS OR THE ABILITY TO MAINTAIN UTILITY FACILITIES.
- SPRINGS UTILITIES APPROVAL OF THE PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF SPRINGS UTILITIES TO APPLY ITS STANDARDS; AND IF THERE ARE ANY CONFLICTS BETWEEN ANY APPROVED DRAWINGS AND ANY PROVISION OF STANDARDS OR THE CITY CODE, THEN THE STANDARDS OR CITY CODE SHALL APPLY. SPRINGS UTILITIES' APPROVAL OF THIS PRELIMINARY UTILITY PLAN SHALL NOT BE CONSTRUED AS A LIMITATION UPON THE AUTHORITY OF THE CITY OF COLORADO SPRINGS OR SPRINGS UTILITIES TO ADOPT DIFFERENT ORDINANCES, RULES, REGULATIONS, RESOLUTIONS, POLICIES OR CODES WHICH CHANGE ANY OF THE PROVISIONS OF THE STANDARDS SO LONG AS THESE APPLY TO THE CITY GENERALLY AND ARE IN ACCORD WITH THE THEN-CURRENT TARIFFS, RATES AND POLICIES OF SPRINGS UTILITIES.

**LEGEND**

	EX. DRAIN LINE
	EX. INFLUENT WATER LINE
	PROP. WATER LINE
	PROP. LIMITS OF DISTURBANCE
	PROP. FENCE
	EX. UNDERGROUND ELECTRIC
	EX. FENCE
	EX. SITE BOUNDARY
	EX. TELEPHONE LINE
	EX. WATER VALVE
	EX. SUMP PUMP
	POTHOLES OBTAINED DURING DATA COLLECTION
	EX. ELEC. VAULT
	EX. ELECTRICAL APP.
	SOIL BORINGS OBTAINED DURING DATA COLLECTION
	EX. FIRE HYDRANT
	EX. ASPHALT
	EX. CONCRETE
	EX. GRAVEL
	EX. ELEC. METER
	EX. TELEPHONE STRUCTURE
	EX. UNDERGROUND ELEC.
	PROP. TEE FITTING
	PROP. 45 DEGREE FITTING
	PROP. 22.5 DEGREE FITTING
	PROP. 11.5 DEGREE FITTING
	PROP. TWO-WAY CLEANOUT
	EX. FLOW ARROW
	PROP. FLOW ARROW



CITY APPROVAL:

GRAPHIC SCALE IN FEET  
0 10 20 40

**PRELIMINARY UTILITY AND PUBLIC FACILITY PLAN**

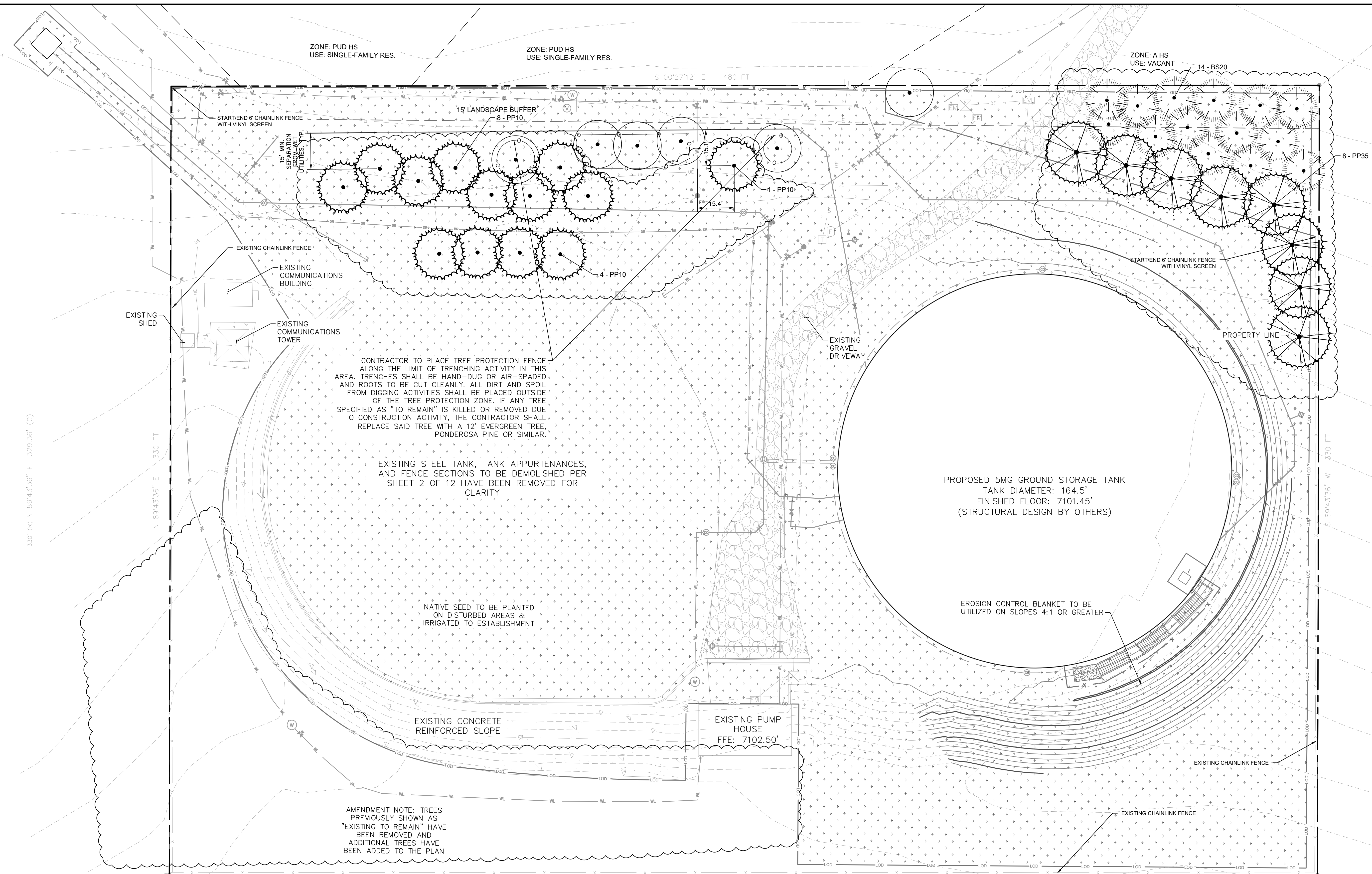
SHEET NUMBER  
**5 OF 12**

k:\cos\_waterrsources\196030007\_wilson\_tank\_design\CADD\plansheets\development\_plan\196030007\_Yard Piping.dwg

**Kimley»Horn**

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
2 NORTH NEVADA AVENUE, SUITE 900  
COLORADO SPRINGS, COLORADO 80903 (719) 284-7297

K:\COS\_WaterResources\196030007\_Wilson Tank Design\CADD\PlanSheets\Development Plan\196030007\_Landscape Plan.dwg



### LEGEND

- DR — DR — EX. DRAIN LINE
- WL — WL — EX. INFLUENT WATER LINE
- WL — WL — PROP. WATER LINE
- LDD — LDD — PROP. LIMITS OF DISTURBANCE
- X — X — PROP. FENCE
- UE — UE — EX. UNDERGROUND ELECTRIC
- X — X — EX. FENCE
- — — EX. SITE BOUNDARY
- — — EX. TELEPHONE LINE
- W — EX. WATER VALVE
- SP — EX. SUMP PUMP
- ⊗ — POTHOLES OBTAINED DURING DATA COLLECTION
- EV — EX. ELEC. VAULT
- ⊕ — EX. ELECTRICAL APP.
- ⊕ — SOIL BORINGS OBTAINED DURING DATA COLLECTION
- ⊕ — EX. FIRE HYDRANT
- — — EX. ASPHALT
- — — EX. CONCRETE
- — — EX. GRAVEL
- EM — EX. ELEC. METER
- T — EX. TELEPHONE STRUCTURE
- ⊕ — EX. UNDERGROUND ELEC.
- ⊕ — PROP. TEE FITTING
- ⊕ — PROP. 45 DEGREE FITTING
- ⊕ — PROP. 22.5 DEGREE FITTING
- ⊕ — PROP. 11.5 DEGREE FITTING
- ⊕ — PROP. TWO-WAY CLEANOUT
- — EX. FLOW ARROW
- — PROP. FLOW ARROW
- — TREE PROTECTION FENCE

- ### GENERAL NOTES
- THIS PLAN SHEET REPRESENTS THE FINAL SITE CONDITION. EXISTING ITEMS TO BE DEMOLISHED PER SHEET 2 OF 12 HAVE BEEN REMOVED FOR CLARITY.
  - SITE DOES NOT CONTAIN ANY SITE LIGHTING. THE ADDITION OF SITE LIGHTING MAY REQUIRE AN AMENDMENT TO THIS PLAN AND/OR A PHOTOMETRIC PLAN.

ZONE: PUD HS  
USE: SINGLE-FAMILY RES.

ZONE: A HS  
USE: VACANT

START/END 6' CHAINLINK FENCE WITH VINYL SCREEN

START/END 6' CHAINLINK FENCE WITH VINYL SCREEN

CONTRACTOR TO PLACE TREE PROTECTION FENCE ALONG THE LIMIT OF TRENCHING ACTIVITY IN THIS AREA. TRENCHES SHALL BE HAND-DUG OR AIR-SPADED AND ROOTS TO BE CUT CLEANLY. ALL DIRT AND SPOIL FROM DIGGING ACTIVITIES SHALL BE PLACED OUTSIDE OF THE TREE PROTECTION ZONE. IF ANY TREE SPECIFIED AS "TO REMAIN" IS KILLED OR REMOVED DUE TO CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL REPLACE SAID TREE WITH A 12' EVERGREEN TREE, PONDEROSA PINE OR SIMILAR.

EXISTING STEEL TANK, TANK APPURTENANCES, AND FENCE SECTIONS TO BE DEMOLISHED PER SHEET 2 OF 12 HAVE BEEN REMOVED FOR CLARITY

PROPOSED 5MG GROUND STORAGE TANK  
TANK DIAMETER: 164.5'  
FINISHED FLOOR: 7101.45'  
(STRUCTURAL DESIGN BY OTHERS)

NATIVE SEED TO BE PLANTED ON DISTURBED AREAS & IRRIGATED TO ESTABLISHMENT

EROSION CONTROL BLANKET TO BE UTILIZED ON SLOPES 4:1 OR GREATER

EXISTING CONCRETE REINFORCED SLOPE

EXISTING PUMP HOUSE  
FFE: 7102.50'

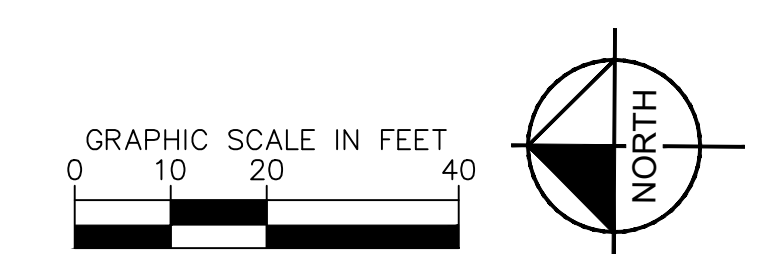
AMENDMENT NOTE: TREES PREVIOUSLY SHOWN AS "EXISTING TO REMAIN" HAVE BEEN REMOVED AND ADDITIONAL TREES HAVE BEEN ADDED TO THE PLAN

### PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT. SIZE	SIZE/CAL	WIDTH	HEIGHT
EXISTING TREES	EXIS	6	EXISTING PINE TREE TO REMAIN PINUS PONDEROSA AND PINUS EDULIS. ALL EXISTING TREES TO REMAIN ARE MINIMUM 6' HEIGHT				
EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT. SIZE	SIZE/CAL	WIDTH	HEIGHT
	BS20	14	PICEA PUNGENS OR PINUS PONDEROSA - 20' / COLORADO BLUE SPRUCE OR PONDEROSA PINE NO CULTIVARS PERMITTED. TREES ARE TO BE SOURCED BY GESCO NURSERY IN FRANKTOWN, CO. (800) 779-9480	SPADE	20' HGT. MIN.	20'-30'	40'-60'
	PP10	13	PINUS PONDEROSA - 10' / PONDEROSA PINE	B & B	10' HGT.	30'-40'	60'+
	PP35	8	PICEA PUNGENS OR PINUS PONDEROSA - 25-30' / PONDEROSA PINE OR COLORADO BLUE SPRUCE NO CULTIVARS PERMITTED. TREES ARE TO BE SOURCED BY GESCO NURSERY IN FRANKTOWN, CO. (800) 779-9480. TREES WILL BE HAND-SELECTED TO PROVIDE THE TALLEST TREES POSSIBLE THAT ARE ABLE TO BE TRANSPLANTED.	SPADE	25' HGT. MIN.	30'-40'	60'+

GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	TYPE	INSTALL RATE
	SEED	100,404 SF	EPIC LOW GROW MIX INSTALL PER TABLE 5-2. SUBMIT SUPPLIER CUT-SHEET FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.	SEED	PER CHART

CITY APPROVAL:



© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
2 NORTH NEVADA AVENUE, SUITE 900  
COLORADO SPRINGS, COLORADO 80903 (719) 284-7297

SHEET TITLE  
**FINAL LANDSCAPE PLAN**

SHEET NUMBER  
**6 OF 12**

# GENERAL LANDSCAPE SPECIFICATIONS

**A. SCOPE OF WORK**

- THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
- WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.

**B. PROTECTION OF EXISTING STRUCTURES**

- ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY BEST MANAGEMENT PRACTICES (BMP) DEVICES ACCORDING TO ALL REGULATORY AGENCY'S STANDARDS THROUGH THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MAINTENANCE OF TRAFFIC (MOT) THAT MAY BE REQUIRED FOR THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA; LOCATING ALL UNDERGROUND FACILITIES DURING CONSTRUCTION; THE SAFETY AND PROTECTION THEREOF; REPAIRING ANY DAMAGE THERE TO RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

**C. PROTECTION OF EXISTING PLANT MATERIALS**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED ON SITE. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF FOUR HUNDRED DOLLARS (\$400) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.
- SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

**D. MATERIALS**

- GENERAL**  
MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER. UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) CUBIC FOOT
TOPSOIL MIX	ONE (1) CUBIC FOOT
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

**2. PLANT MATERIALS**

- FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT SCHEDULE SHOWN ON DRAWINGS AND COMPLYING WITH ANSI Z60.1 AND THE COLORADO NURSERY ACT, AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.
- TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE.
- NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE PROJECT LANDSCAPE ARCHITECT. ANY ROW TREES MUST BE APPROVED BY OFFICE OF THE CITY FORESTER.
- PROVIDE PLANTS OF SIZES, GRADES, AND BALL OR CONTAINER SIZES COMPLYING WITH ANSI Z60.1 AND COLORADO NURSERY ACT FOR TYPES AND FORM OF PLANTS REQUIRED. PLANTS OF A LARGER SIZE MAY BE USED IF ACCEPTABLE TO PROJECT LANDSCAPE ARCHITECT WITH A PROPORTIONATE INCREASE IN SIZE OF ROOTS OR BALLS.
- PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.
- TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS; TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES OR BETWEEN BRANCH AND TRUNK ("INCLUDED BARK"); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN 1/4 INCH (6 MM) IN DIAMETER; OR WITH STEM GIRDLING ROOTS WILL BE REJECTED.
- FURNISH TREES AND SHRUBS WITH ROOTS BALLS MEASURED FROM TOP OF ROOT BALL, WHICH SHALL BEGIN AT ROOT FLARE ACCORDING TO ANSI Z60.1 AND COLORADO NURSERY ACT. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING.
- LABEL AT LEAST ONE PLANT OF EACH VARIETY, SIZE, AND CALIPER WITH A SECURELY ATTACHED, WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF COMMON NAME AND FULL SCIENTIFIC NAME, INCLUDING GENUS AND SPECIES. INCLUDE NOMENCLATURE FOR HYBRID, VARIETY, OR CULTIVAR, IF APPLICABLE FOR THE PLANT AS SHOWN ON DRAWINGS.

**E. SOIL MIXTURE**

- CONTRACTOR SHALL TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW:
- SOIL MIXTURE SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. CONTRACTOR TO SUBMIT SAMPLES AND pH TESTING RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
- TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT OPENINGS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER, HAVE A PH BETWEEN 5.5 AND 8.0, AND SOLUBLE SALTS LESS THAN 3.0 MMHOS/CM. SUBMIT SOIL SAMPLE AND pH TESTING RESULTS FOR APPROVAL.
- SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.
- TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT THE PROJECT LANDSCAPE ARCHITECT TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

**F. WATER**

- WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC.... IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.
- \*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

**G. DIGGING AND HANDLING**

- ALL TREES SPECIFIED SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE APPROVED BY PROJECT LANDSCAPE ARCHITECT.
- PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO THE SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILT-PRO" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
- B&B, AND FIELD GROWN (FG) PLANTS SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO

ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS SHALL NOT BE HANDLED BY STEMS.

**H. MATERIALS LIST**

- QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE PLANS SHALL GOVERN. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

**I. PLANTING PROCEDURES**

- THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY. ALL MORTAR, CEMENT, BUILDING MATERIALS, AND TOXIC MATERIAL SHALL BE COMPLETELY REMOVED FROM PLANTING AREAS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS IN PLANTING AREAS WHICH WILL ADVERSELY AFFECT THE PLANT GROWTH, THE CONTRACTOR SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
- VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS LINES AND TANKS, WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL COLORADO (811) TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMESTONE AND LIMESTONE SUB-BASE FROM ALL PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMESTONE OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE POOR DRAINAGE CONDITION PLANTING DETAIL.
- FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS SPECIFIED HEREIN. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
- COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED OR APPROPRIATELY HEALED IN FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE SHALL BE EXERCISED.
- WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
- ALL PLANTING OPENINGS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH ANSI Z60.1-2014 AMERICAN STANDARD FOR NURSERY STOCK.
- TEST ALL TREE OPENINGS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL.
- TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN.
- PRIOR TO EXCAVATION OF TREE OPENINGS, AN AREA EQUAL TO TWO TIMES THE DIAMETER OF THE ROOT BALL SHALL BE ROTO-TILLED TO A DEPTH EQUAL TO THE DEPTH OF THE ROOT BALL.
- EXCAVATION OF TREE OPENINGS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.
- TREE OPENINGS FOR WELL DRAINED SOILS SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT BALL WILL REST ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL WILL BE FLUSH WITH FINISH GRADE. IN POORLY DRAINED SOILS THE TREE OPENING SHALL BE DUG SO THAT THE ROOT BALL RESTS ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL IS 1" ABOVE FINISH GRADE. PLANT PIT WALLS SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
- TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
- SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION 'E'.
- TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. SOIL MIXTURE SHALL BE BACK FILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
- AMEND PINE AND OAK PLANT OPENINGS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT OPENINGS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
- FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET, ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE.
- ALL BURLAP, ROPE, WIRES, BASKETS, ETC... SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
- TREES SHALL BE PRUNED, IN ACCORDANCE WITH ANSI A-300, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY CERTIFIED ARBORIST.
- TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO USE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE PROJECT LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.

**J. CLEANUP**

- UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM CONTRACTORS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

**K. PLANT MATERIAL MAINTENANCE**

- ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, PRUNING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.

**L. FINAL INSPECTION AND ACCEPTANCE OF WORK**

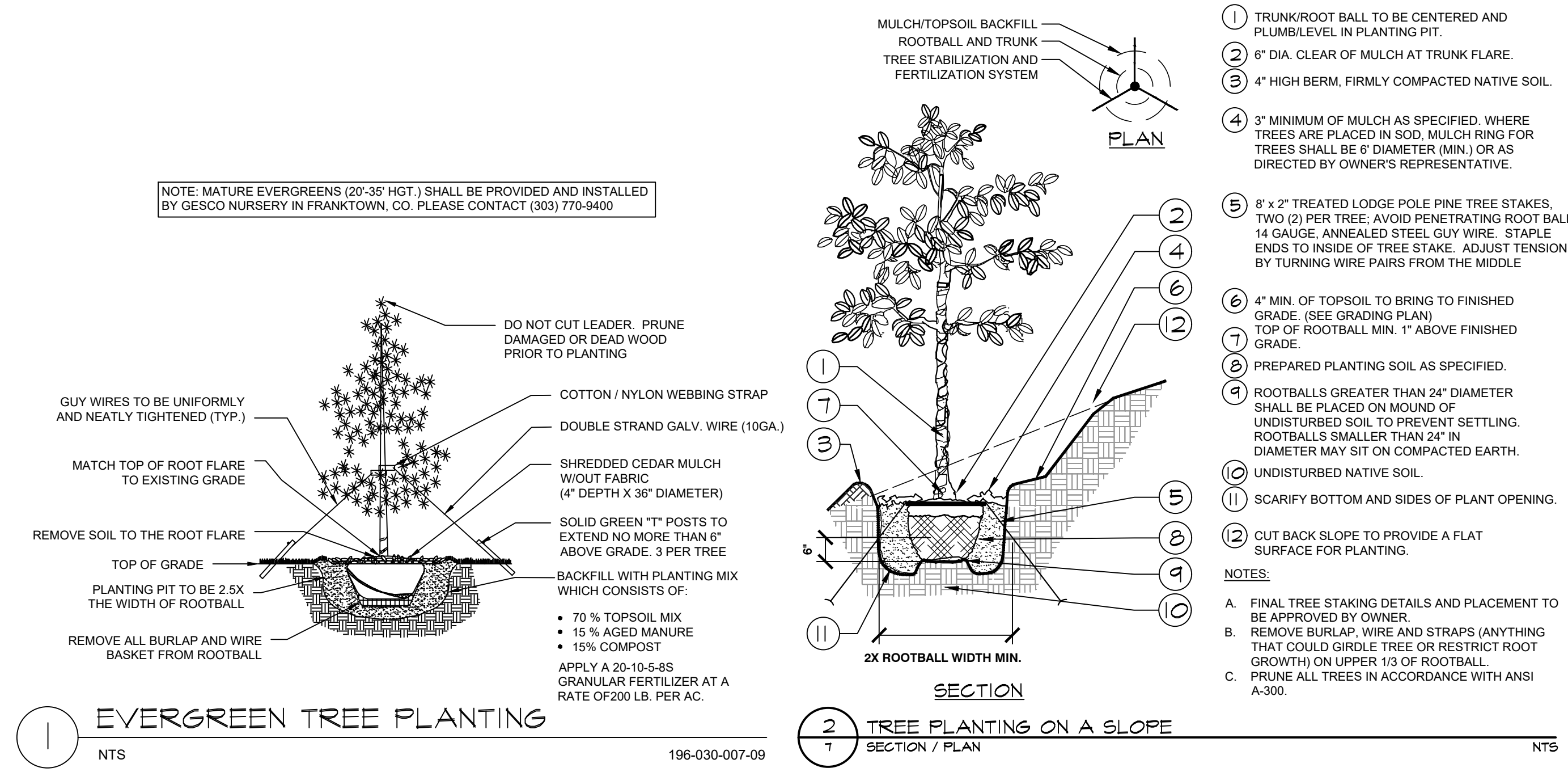
- FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

**M. WARRANTY**

- THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED (INCLUDING SOD) BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.
- ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER.
- IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH.

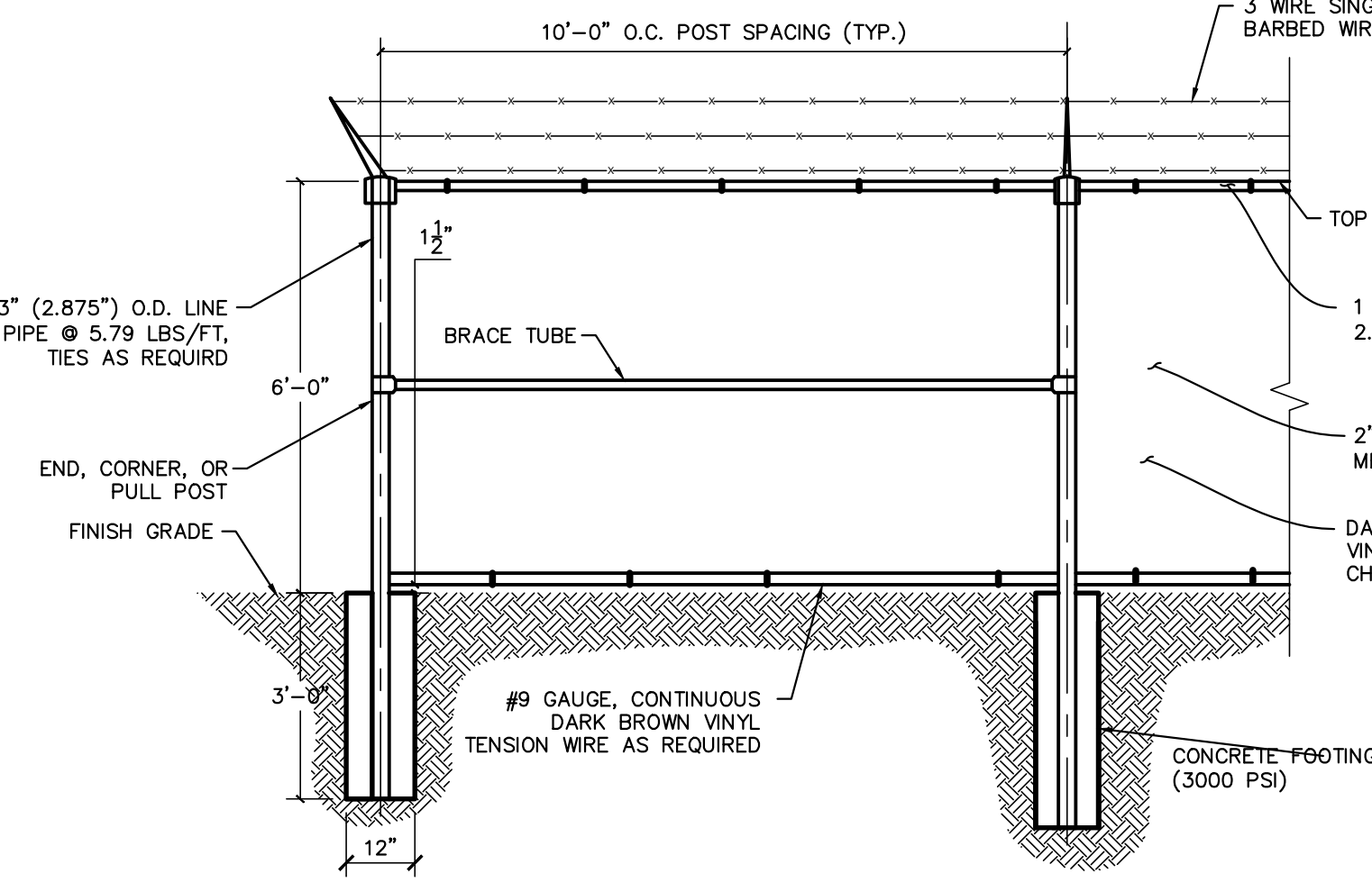
**N. MAINTENANCE**

- LANDSCAPE IMPROVEMENTS AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER AND/OR THEIR ASSIGNS.



**1 EVERGREEN TREE PLANTING**

**2 TREE PLANTING ON A SLOPE**



**3 CHAINLINK FENCE**

LANDSCAPE SETBACKS AND BUFFERS	
STREET NAME OR BOUNDARY:	EAST BUFFER
ZONE DISTRICT BOUNDARY:	NO
STREET CLASSIFICATION:	PRIVATE
SETBACK DEPTH REQUIRED / PROVIDED:	15' / 15'
LINEAR FOOTAGE:	480'
TREE PER FEET REQ.:	1 TREE PER 20 LF
NUMBER OF TREES REQ. / PROV.:	24 / 25 (6 EXISTING)
EVERGREEN TREES REQ. / PROV.:	12 / 29
SHRUB SUBSTITUTES REQ. / PROV.:	0 / 0
ORN. GRASS SUBSTITUTES REQ. / PROV.:	0 / 0
OPAQUE SCREEN REQ. / PROV.:	480' / 480'
PLANT ABBREVIATION DENOTED ON PLAN:	WB
% GROUND PLANE VEG. REQ. / PROV.:	75% / 75%

INTERNAL LANDSCAPING	
NET SITE AREA:	157,861 SF
PERCENT MINIMUM INTERNAL AREA:	5%
INTERNAL LANDSCAPE AREA REQ. / PROV.:	7,893 SF / 100,000+ SF
TREE PER FEET REQ.:	1 TREE PER 500 SF
INTERNAL TREES REQ. / PROV.:	16 / 16
SHRUB SUBSTITUTES REQ. / PROV.:	0 / 0
ORN. GRASS SUBSTITUTES REQ. / PROV.:	0 / 0
PLANT ABBREVIATION DENOTED ON PLAN:	IN
% GROUND PLANE VEG. REQ. / PROV.:	75% / 75%

**Table 5-2. El Paso County All-Purpose Low Growth Mix for Upland and Transition Areas**

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				Ingrated broadcast + Ingrated hydroseeded	Non-ingranted broadcast + Ingrated hydroseeded + Ingrated drilled	Non-ingranted drilled
Buffalograss	Buchloe dactyloides	Warm, sod	25	9.6	4.8	2.4
Grama, blue	Bouteloua gracilis	Warm, bush	20	10.8	5.4	2.7
Grama, sideoats	Bouteloua curtipendula	Warm, bush	29	5.6	2.8	1.4
Green needlegrass	Nassella viridula	Cool, bunch	5	3.2	1.6	0.8
Wheatgrass, western	Panicopyrum smithii	Cool, sod	20	12	6	3
Droopseed, sand	Sporobolus cryptandrus	Warm, bush	1	0.8	0.4	0.2
Seed rate (lbs PLS/acre)				42	21	10.3

**CITY APPROVAL:**



SHEET TITLE  
**LANDSCAPE NOTES AND DETAILS**

SHEET NUMBER  
**7 OF 12**

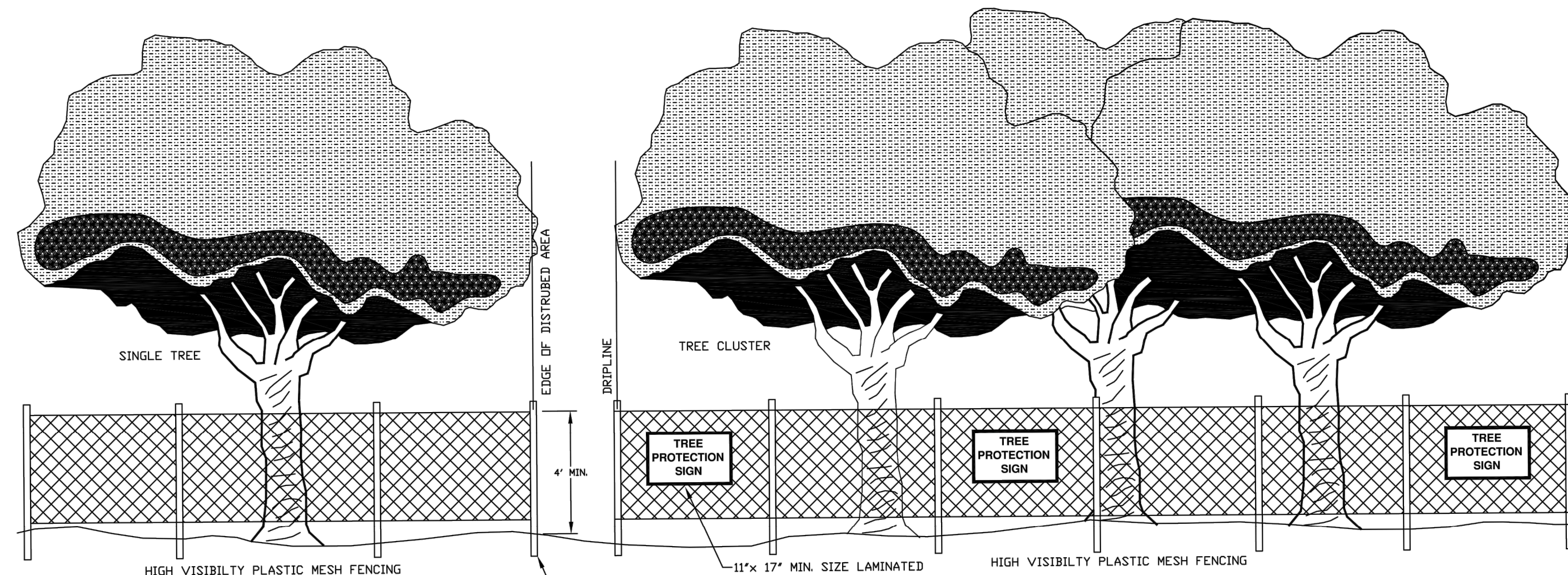
**NOTES & PROCEDURES**

THE FOLLOWING ACTIVITIES ARE PROHIBITED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE (CRZ) OF ANY PROTECTED TREE SUBJECT TO THE PROVISIONS OF THE TREE PRESERVATION ORDINANCE. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED ON ALL TYPES OF CONSTRUCTION PROJECTS (INCLUDING RESIDENTIAL, COMMERCIAL, AND MUNICIPAL / PUBLIC DOMAIN PROJECTS).

1. MATERIAL STORAGE: NO STORAGE OR PLACEMENT OF MATERIALS INTENDED FOR USE IN CONSTRUCTION OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATION OR DEMOLITION SHALL BE PLACED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE.
2. EQUIPMENT CLEANING/LIQUID DISPOSAL: NO EQUIPMENT SHALL BE CLEANED OR OTHER LIQUIDS, INCLUDING WITHOUT LIMITATION, PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR OR SIMILAR MATERIALS DEPOSITED OR ALLOWED TO FLOW INTO CRITICAL ROOT ZONE OF A PROTECTED TREE.
3. TREE ATTACHMENTS: NO SIGNS, WIRES, OR OTHER ATTACHMENTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY PROTECTED TREE.
4. VEHICULAR TRAFFIC: NO VEHICULAR AND/OR CONSTRUCTION EQUIPMENT TRAFFIC OR PARKING SHALL TAKE PLACE WITHIN CRITICAL ROOT ZONE OF ANY PROTECTED TREE.
5. GRADE CHANGES: NO GRADE CHANGES SHALL BE ALLOWED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF ANY PROTECTED TREE UNLESS ADEQUATE PROTECTIVE CONSTRUCTION METHODS ARE APPROVED IN ADVANCE IN WRITING BY COLORADO SPRINGS FORESTRY DEPARTMENT.
6. NO HEAVY EQUIPMENT, INCLUDING BUT NOT LIMITED TO TRUCKS, TRAILERS, BULLDOZERS, BOBCAT TRACTORS, TRENCHERS, COMPRESSORS AND HOISTS, SHALL BE ALLOWED INSIDE THE DRIP LINE OF ANY PROTECTED TREE ON ANY CONSTRUCTION SITE WITHOUT WRITTEN PERMISSION OF THE COLORADO SPRINGS FORESTRY DEPARTMENT.

**THE FOLLOWING PROCEDURES SHALL BE FOLLOWED FOR ALL TYPES OF CONSTRUCTION.**

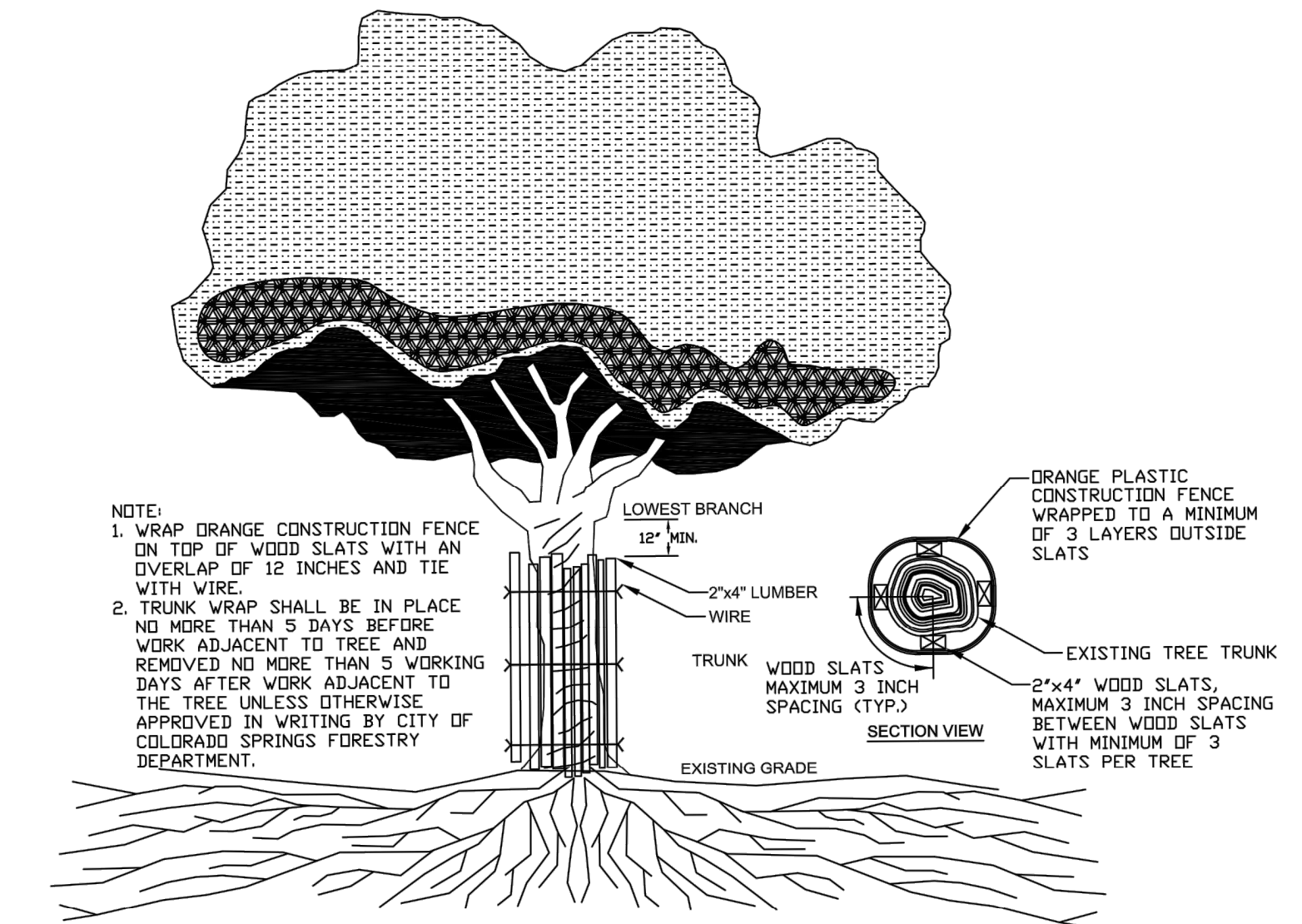
1. PROTECTIVE FENCING PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR OR SUB CONTRACTOR SHALL CONSTRUCT AND MAINTAIN, FOR EACH PROTECTED TREE ON THE CONSTRUCTION SITE, A PROTECTIVE FENCING WHICH ENCLOSES THE OUTER LIMITS OF THE CRITICAL ROOT ZONE OF THE TREE TO PROTECT IT FROM CONSTRUCTION ACTIVITY.
2. ALL PROTECTIVE FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK AND REMAIN IN PLACE UNTIL ALL EXTERIOR CONSTRUCTION ACTIVITY AT THE SITE HAS BEEN COMPLETED.
3. PROTECTIVE FENCING SHALL BE AT LEAST FOUR (4) FEET HIGH, CLEARLY VISIBLE, AND SHALL HAVE A TREE PROTECTION SIGN AFFIXED TO THE FENCE EVERY TWENTY (20) FEET IN SUCH A MANNER TO BE CLEARLY VISIBLE TO WORKERS ON THE SITE.
4. THE USE OF ORANGE VINYL CONSTRUCTION FENCING OR OTHER SIMILAR FENCING IS GENERALLY PERMITTED ONLY IF THERE IS NO CONSTRUCTION OR VEHICULAR ACTIVITY WITHIN TEN (10) FEET OF THE FENCE. IF CONSTRUCTION ACTIVITY OR VEHICULAR TRAFFIC IS EXPECTED WITHIN TEN (10) FEET OF THE FENCE, THE FENCE SHALL BE CONSTRUCTED OF CHAIN LINK OR OTHER SIMILAR MATERIAL, WOODEN MATERIAL OR SEMI-RIGID VINYL TAPE FENCING SUPPORTED WITH A TOP WIRE OR EQUIVALENT SUPPORT MATERIAL AFFIXED TO METAL OR WOODEN POSTS, ALL OF WHICH SHALL BE SIX (6) FEET IN HEIGHT.
5. ALL PROTECTIVE FENCING SHALL BE SUPPORTED AT TEN (10) FOOT INTERVALS BY APPROVED METHODS SUFFICIENT ENOUGH TO KEEP THE FENCE UPRIGHT AND IN PLACE FOR THE DURATION OF THE CONSTRUCTION.
6. THE RESPONSIBLE PARTY/CONSTRUCTION CONTRACTOR SHALL CAUSE THE REQUIRED FENCING TO BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION.
7. FOR PERMITS INVOLVING TRENCHING SUCH AS IRRIGATION SYSTEMS OR UNDERGROUND ELECTRICAL WORK, THE APPLICANT SHALL PROVIDE SUFFICIENT PLANS TO PROVIDE PROTECTION OF THE TREES IN THE VICINITY OF THE WORK.
8. THE TREE PROTECTION SIGN, TREE PRESERVATION INSTRUCTION DETAIL SHEET AND THE APPROVED TREE CONSERVATION PLAN SHALL BE POSTED AT EACH ENTRANCE TO THE SUBJECT PROPERTY UPON WHICH ONE OR MORE TREES SUBJECT TO THE PERMIT IS SITUATED, AND AT ANY OTHER LOCATION DESIGNATED BY CITY OF COLORADO SPRINGS FORESTRY DEPARTMENT.
9. ALL OF THE ABOVE CONDITIONS MUST BE ADHERED TO AND INSPECTED BY CITY OF COLORADO SPRINGS FORESTRY DEPARTMENT PRIOR TO THE ISSUANCE OF ANY PERMITS.



**PROTECTIVE FENCING:**  
 ORANGE VINYL CONSTRUCTION FENCING, CHAINLINK FENCING, SNOW FENCING OR OTHER SIMILAR FENCING AT LEAST FOUR FEET (4') HIGH AND SUPPORTED AT A MAXIMUM OF TEN-FOOT (10') INTERVALS BY APPROVED METHODS SUFFICIENT ENOUGH TO KEEP THE FENCE UPRIGHT AND IN PLACE. THE FENCING SHALL BE OF A HIGHLY VISIBLE MATERIAL, AND SHALL HAVE TREE PROTECTION SIGN AFFIXED TO THE FENCE EVERY TWENTY (20) FEET IN SUCH A MANNER TO BE CLEARLY VISIBLE TO WORKERS ON-SITE.

**PRIOR TO CONSTRUCTION:**  
 THE CONTRACTOR OR SUBCONTRACTOR SHALL CONSTRUCT AND MAINTAIN, FOR EACH PROTECTED TREE OR GROUP OF TREES ON A CONSTRUCTION SITE, A PROTECTIVE FENCING WHICH ENCLOSES THE OUTER LIMITS OF THE CRITICAL ROOT ZONE (CRZ) OF THE TREES TO PROTECT THEM FROM CONSTRUCTION ACTIVITY. ALL PROTECTIVE FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK AND REMAIN IN PLACE UNTIL ALL EXTERIOR WORK HAS BEEN COMPLETED.

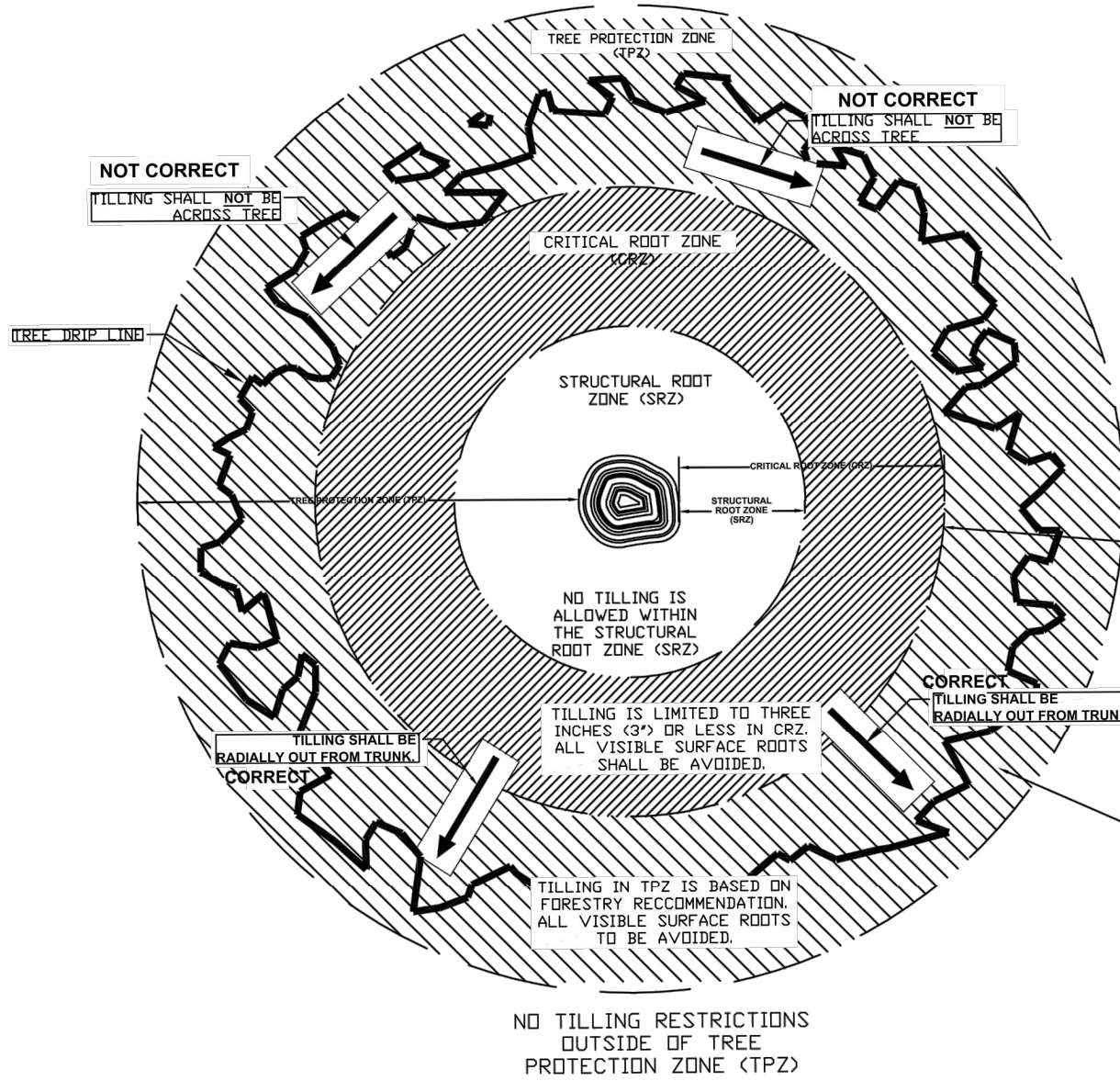
**TYPICAL FENCING TREE PROTECTION DETAIL**  
 Diagrammatic Not To Scale



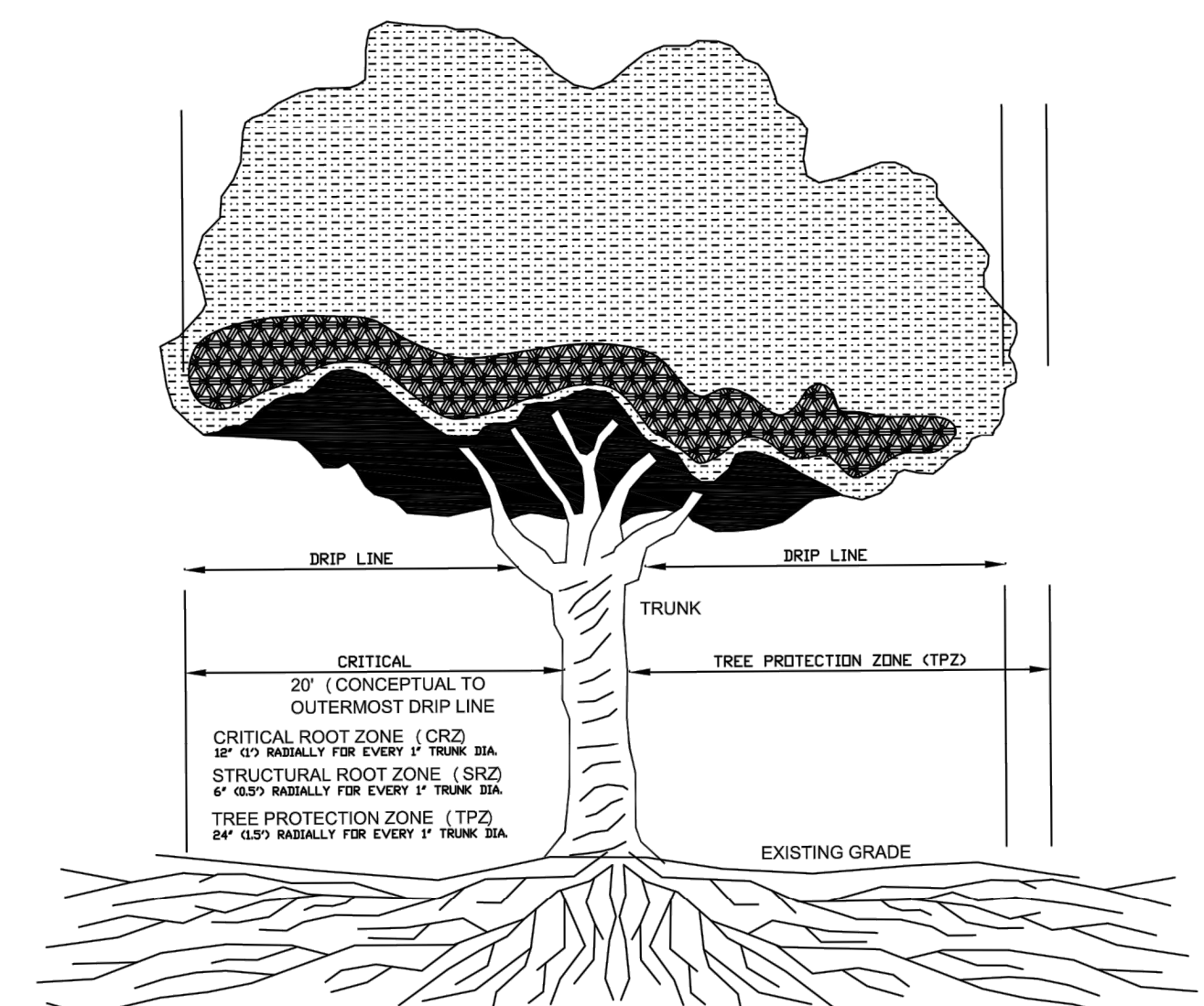
**NOTE:**  
 1. WRAP ORANGE CONSTRUCTION FENCE ON TOP OF WOOD SLATS WITH AN OVERLAP OF 12 INCHES AND TIE WITH WIRE.  
 2. TRUNK WRAP SHALL BE IN PLACE NO MORE THAN 5 DAYS BEFORE WORK ADJACENT TO TREE AND REMOVED NO MORE THAN 5 WORKING DAYS AFTER WORK ADJACENT TO THE TREE UNLESS OTHERWISE APPROVED IN WRITING BY CITY OF COLORADO SPRINGS FORESTRY DEPARTMENT.

**TYPICAL BARK PROTECTION DETAIL**  
 Diagrammatic Not To Scale

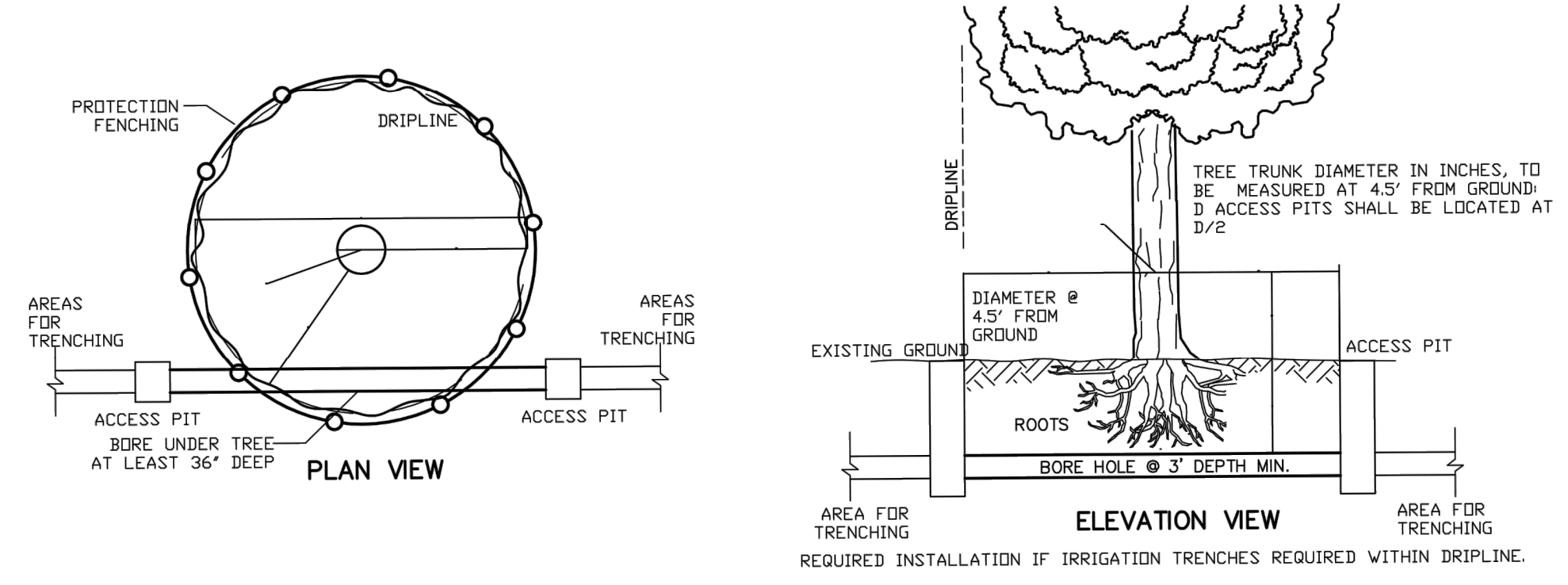
**TREE PROTECTION ZONES**  
 The Tree Protection Zone (TPZ) shall be equal to eighteen inches (18") radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line).  
 The Critical Root Zone (CRZ) shall be equal to twelve inches (12") radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line).  
 The Structural Root Zone (SRZ) shall be equal to six inches (6") radially from the tree for every one inch of trunk diameter at breast height (DBH = 4.5' above soil line).



**TYPICAL PLAN/ELEVATION VIEWS TREE PROTECTION DETAIL**  
 Diagrammatic Not To Scale



**CRITICAL ROOT ZONE AREA**  
 Diagrammatic Not To Scale



1. TREE PROTECTION MEASURES MUST BE IN PLACE BEFORE CONSTRUCTION, DEMOLITION, GRADING ACTIVITIES AND/OR IRRIGATION TRENCHING COMMENCE.
2. TREES CALLED OUT FOR PRESERVATION SHALL BE FENCED AT THE DRIPLINE. ERECTION OF FENCE PROTECTION AROUND TREES SHALL BE MINIMUM 6' LONG #5 REBAR OR T-POSTS DRIVEN 1' INTO THE GROUND @ 4' C. AT DRIPLINE. ATTACH ORANGE MESH BARRIER WITH NYLON ZIP TIES OR TWISTED WIRE TO REBAR OR T-POSTS. FENCING MAY OCCUR AT THE COMBINED DRIPLINES OF GROVES OF TREES. PLACE 4'-6" BARK MULCH BENEATH DRIPLINES OF TREES TO BE PRESERVED. KEEP BARK 2-3 FEET FROM TREE TRUNKS.
3. NO GRADING SHALL OCCUR WITHIN THE DRIPLINES/FENCED AREA OF EXISTING TREES.
4. NO CONSTRUCTION MATERIALS OR CONSTRUCTION VEHICLES MAY BE STORED WITHIN DRIPLINES/FENCED AREAS OF EXISTING TREES.
5. CONSTRUCTION VEHICLES OR MACHINERY MAY NOT PASS BETWEEN TWO OR MORE EXISTING TREES IDENTIFIED FOR PRESERVATION IF THEIR CANOPIES ARE WITHIN 10 FEET OF TOUCHING. ADDITIONAL FENCING MAY BE REQUIRED AS NEEDED TO SATISFY THIS REQUIREMENT.
6. CONTRACTOR IS REQUIRED TO HAVE ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), APPROVED BY CSPP, ON SITE IF SITE CONSTRUCTION EFFORTS REQUIRE REMOVAL OF EXISTING ROOTS OR BRANCH PRUNING. ROOTS APPROVED FOR CUTTING MUST BE CUT CLEANLY WITH A SAW. RIPPING OR SHREDDING ROOTS SUBJECT TO FINE/PENALTY.
7. UNAUTHORIZED TREE REMOVAL IS SUBJECT TO REPLACEMENT EQUAL TO THE APPRAISED VALUE OF THE TREE LOST.
8. THE CONTRACTOR IS REQUIRED TO WATER, AND ATTEND TO OTHER MAINTENANCE NEEDS OF EXISTING TREES TO MAINTAIN HEALTHY GROWTH THROUGHOUT THE CONSTRUCTION PERIOD. TREES SHALL BE WATERED ACCORDING TO WEATHER AND TREE SPECIES REQUIREMENTS.
9. ALL IRRIGATION TRENCHING WITHIN TREE PROTECTION LIMITS DEFINED ABOVE SHALL BE "HAND EXCAVATED" AVOIDING AS MUCH DAMAGE TO ROOTS AS POSSIBLE.

**EXISTING TREE PROTECTION/TRENCHING DETAIL**  
 Diagrammatic Not To Scale

Reuse of Document  
 This document is the property of HCL, LLC.  
 The ideas and design incorporated on this document and specifications are instruments of professional service and shall not be used for any other project without written authorization of HCL, LLC.  
 © 2020 HCL, LLC. All rights reserved.

REPRODUCTION DESIGN BY:  
 James H. Haddock  
 C.I.D. #00082

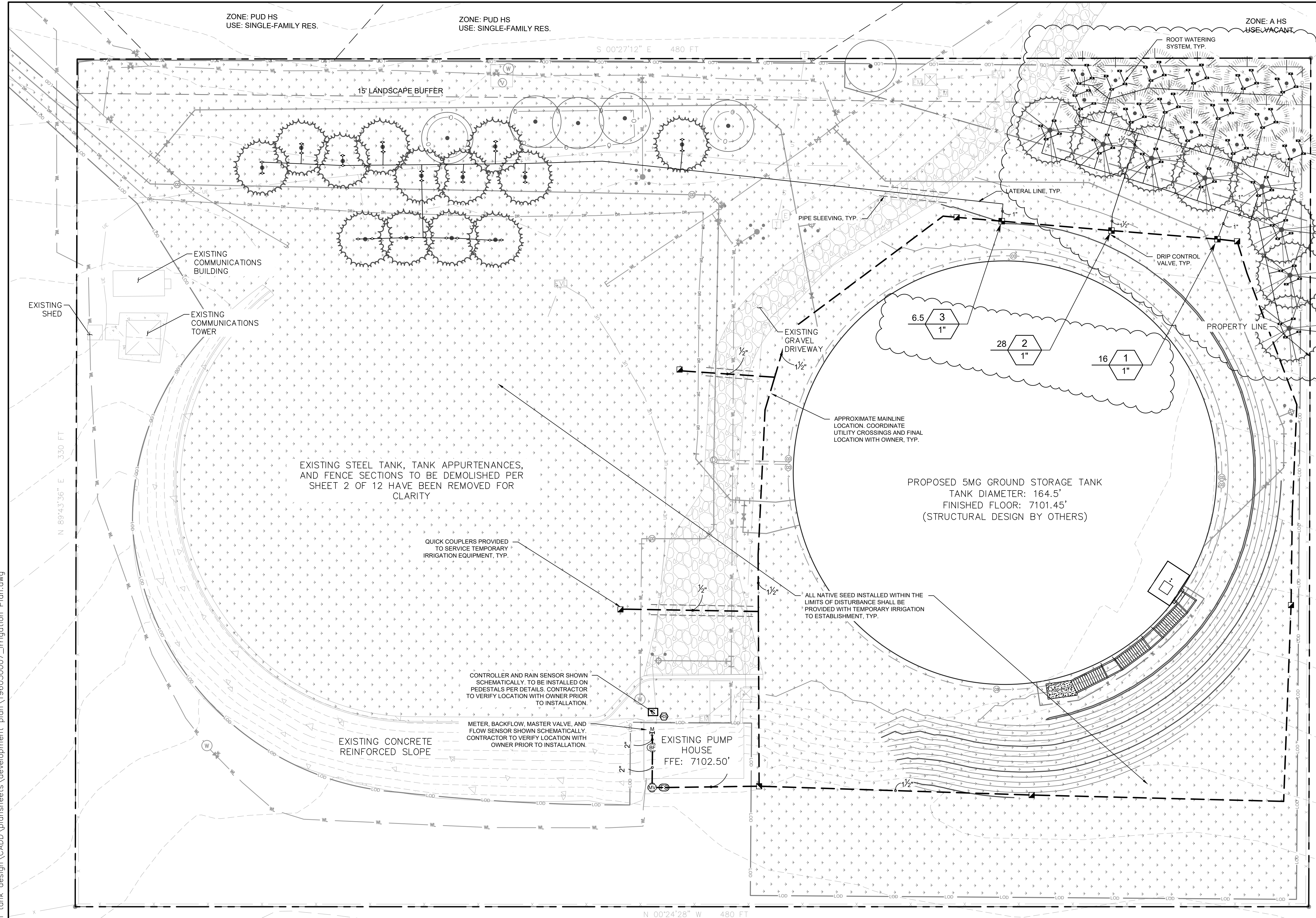
hcl  
**HACKBOLT CONSULTING, LLC**

hcl@hccol.com  
 17820 SAMMILL ROAD  
 (719) 599-3988 Ph  
 (719) 281-4241 Cell  
 Colorado Springs, CO 80908

CITY APPROVAL:

SHEET TITLE
<b>TREE PROTECTION DETAILS</b>
SHEET NUMBER
<b>8 OF 12</b>





### IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
1401 1402	RAIN BIRD RWS-M-B-C-SOCK 1401 MINI ROOT WATERING SYSTEM WITH 4" DIAMETER X 18" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE AND RAIN BIRD 1401 0.25 GPM OR 1402 0.5 GPM BUBBLER AS INDICATED. WITH CHECK VALVE, AND SAND SOCK FOR SANDY SOIL.	114	30
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	RAIN BIRD XCZ-100-PRB-COM WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1" BALL VALVE WITH 1" PEBB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3 GPM-20 GPM	3	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	RAIN BIRD 44-LRC 1" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, AND 2-PIECE BODY.	7	
	RAIN BIRD PEB 1-1/2" 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	1	
	WATTS LF909M1 1-1/4" LEAD FREE REDUCED PRESSURE BACKFLOW PREVENTER.	1	
	RAIN BIRD ESPRLXME-LXMMSS-LXMMSSPED STATION. TRADITIONALLY WIRED. COMMERCIAL CONTROLLER. INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE. INSTALL IN LXMMSS-LXMMSSPED STAINLESS STEEL CABINET W/ PEDESTAL.	1	
	RAIN BIRD WR2-RFS WIRELESS RAIN/FREEZE SENSOR.	1	
	RAIN BIRD FS-100-B 1" FLOW SENSOR FOR USE WITH RAIN BIRD MAXICOM, SITECONTROL, AND ESP-LXD CENTRAL CONTROL SYSTEMS. BRASS MODEL. SUGGESTED OPERATING RANGE OF 2.0 GPM TO 40.0 GPM. SENSORS SHOULD BE SIZED FOR FLOW RATHER THAN PIPE SIZE.	1	
	POINT OF CONNECTION 1 1/2"	1	
IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21			
PVC CLASS 200 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1.278 L.F. 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.			
IRRIGATION MAINLINE: PVC SCHEDULE 40		947.0 L.F.	
PIPE SLEEVE: PVC SCHEDULE 40		83.8 L.F.	

### VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	RAIN BIRD XCZ-100-PRB-COM	1"	BUBBLER	16	432.2	45.7	62.1	1.74 in/h
2	RAIN BIRD XCZ-100-PRB-COM	1"	BUBBLER	28	390.9	54.2	72.0	1.75 in/h
3	RAIN BIRD XCZ-100-PRB-COM	1"	BUBBLER	6.5	346.1	36.5	51.9	0.95 in/h
				Common Wire	947.0			

### CRITICAL ANALYSIS

Generated: 2023-09-15 13:50

P.O.C. NUMBER: 01

Water Source Information:

FLOW AVAILABLE  
Point of Connection Size: 1 1/2"  
Flow Available: 46.59 GPM

PRESSURE AVAILABLE  
Static Pressure at POC: 80 PSI  
Pressure Available: 80 PSI

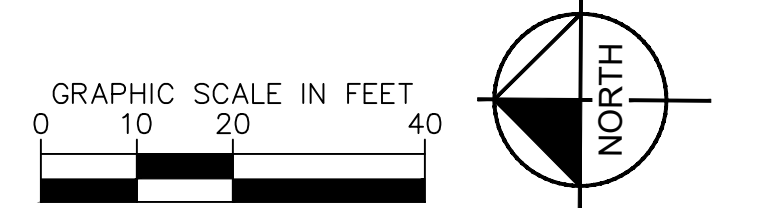
DESIGN ANALYSIS  
Maximum Station Flow: 28 GPM  
Flow Available at POC: 46.59 GPM  
Residual Flow Available: 18.59 GPM

Critical Station: 2  
Design Pressure: 30 PSI  
Friction Loss: 1.53 PSI  
Fittings Loss: 0.15 PSI  
Elevation Loss: 0 PSI  
Loss Through Valve: 22.5 PSI  
Pressure Rem. at Critical Station: 54.2 PSI  
Loss for Fittings: 0.29 PSI  
Loss for Main Line: 2.89 PSI  
Loss for POC to Valve Elevation: 0 PSI  
Loss for Backflow: 11 PSI  
Loss for Master Valve: 3.66 PSI  
Critical Station Pressure at POC: 72.0 PSI  
Pressure Available: 80 PSI  
Residual Pressure Available: 7.98 PSI

### WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN/WEEK	MIN/WEEK	GAL/WEEK	GAL/DAY
1	RAIN BIRD XCZ-100-PRB-COM	BUBBLER	1.74 in/h	1	35	560	
2	RAIN BIRD XCZ-100-PRB-COM	BUBBLER	1.75 in/h	1	35	980	
3	RAIN BIRD XCZ-100-PRB-COM	BUBBLER	0.95 in/h	0.75	48	312	
TOTALS:					118	1,852	

CITY APPROVAL:



SHEET TITLE

**IRRIGATION PLAN**

SHEET NUMBER

**9 OF 12**

**GENERAL IRRIGATION SPECIFICATIONS AND NOTES**

- THE SYSTEM SHALL BE DESIGNED TO PROVIDE 100% COVERAGE. ANY CHANGES MADE IN THE LAYOUT DUE TO FIELD CONDITIONS SHALL BE IN ACCORDANCE WITH THESE STANDARDS. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK. THIS PLAN IS SCHEMATIC AND DUE TO THE NATURE OF CONSTRUCTION SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN.
- THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION SHALL CONFORM TO TOWN, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
- VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THESE PLANS-CONTRACTOR SHALL FIELD VERIFY.
- CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN AVAILABLE WATER PRESSURE. REFER TO CRITICAL ANALYSIS FOR ASSUMED STATIC PRESSURE.
- CONTRACTOR TO FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING PSI AND GPM PRIOR TO CONSTRUCTION.
- IRRIGATION DESIGN IS SCHEMATIC ONLY. FULL AND COMPLETE SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL COORDINATE WITH THE PLANTING PLAN FOR PLANTER BED AND TREE LOCATIONS TO ENSURE ALL PLANT MATERIAL IS COVERED BY 100% HEAD-TO-HEAD IRRIGATION.
- CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT.
- IRRIGATION CONTRACTOR TO COORDINATE POWER SUPPLY TO ELECTRIC CONTROLLERS WITH ELECTRICAL CONTRACTOR.
- IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE OWNER/GENERAL CONTRACTOR. WORK IN THE R.O.W. SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE JURISDICTION.
- IRRIGATION LATERAL LINES, MAIN LINES AND EQUIPMENT MAY BE SHOWN OUTSIDE PROPERTY LINES ON THIS PLAN. ALL IRRIGATION LINES AND EQUIPMENT ARE TO BE WITHIN AND INSTALLED WITHIN THE LIMITS OF THE PROPERTY LINE.
- LOCATE ALL IRRIGATION LINES WITHIN LANDSCAPED AREAS WHENEVER POSSIBLE. ALL LINES UNDER PAVEMENT MUST BE SLEEVED. ALL VALVES SHALL BE LOCATED WITHIN LANDSCAPED AREAS, AS SPECIFIED.
- IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED.
- SUPPLY LINE AND METER TO BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
- INSTALL ALL BACKFLOW PREVENTION DEVICES AND ALL PIPING BETWEEN THE POINT OF CONNECTION AND THE BACKFLOW PREVENTER AS PER LOCAL CODES. FINAL LOCATION SHALL BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- CONTRACTOR TO COORDINATE LOCATION OF ALL METERS AND BACKFLOW ASSEMBLIES WITH PROJECT OWNER.
- THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR SLEEVING AND DIRECTIONAL BORES.
- EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
- ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR WHETHER INSTALLED BY HIM OR NOT, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF THE SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS. ALL SLEEVES ON PLAN FOR WALL PENETRATIONS AND UNDER SIDEWALKS SHALL BE SIZED TWO PIPE SIZES GREATER THAN THE PIPE IT CARRIES. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL.
- ALL PRESSURIZED MAINLINES AND LATERALS UNDER PAVEMENT SHALL BE WITHIN SLEEVES AS NOTED. WHERE ELECTRIC OR HYDRAULIC VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER CONDUIT.
- SLEEVES UNDER EXISTING PAVEMENT MUST BE DIRECTIONAL BORE. OPEN CUT IS NOT AN OPTION.
- NUMBER THE TOP OF ALL VALVE BOX LIDS WITH MINIMUM 1" HEIGHT BLACK LETTERS TO CORRESPOND TO AUTOMATIC AND GATE VALVE DESIGNATIONS. ALL HOSE BIBB VALVE BOXES SHALL BE LABELED IN A SIMILAR MANNER WITH THE DESIGNATION "H" LETTER OUTSIDE OF TIME CLOCK CABINETS TO CORRESPOND WITH IRRIGATION CLOCK PROGRAM DESIGNATION.
- THE IRRIGATION CONTRACTOR SHALL INSTALL A COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES "CAUTION: IRRIGATION LINE BURIED BELOW." THE TAPE SHALL BE INSTALLED THE FULL LENGTH OF THE IRRIGATION MAINLINE.
- ALL VALVES, SPLICES WITHIN CONTROL LINES, AND QUICK COUPLERS SHALL BE LOCATED WITHIN VALVE BOXES.
- ALL UNSIZED PIPE SHALL BE 3/4" UNLESS OTHERWISE NOTED ON PLAN. SEE LATERAL PIPE SIZING REQUIREMENTS.

- LOCATE ALL VALVES IN PLANTING BEDS WITH A MINIMUM OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT. UNLESS OTHERWISE NOTED. PIPE SIZES ON EITHER SIDE OF SECTION VALVES CONNECTING MAINLINE TO SECTION LATERAL SHALL BE ONE (1) PIPE SIZE LARGER THAN VALVE SIZE. WHERE MAINLINES RUN PARALLEL TO PAVEMENT OR CURBING, THE MAINLINE SHALL BE OFFSET 2'-0" FROM THE EDGE OF PAVEMENT OR CURB.
  - IRRIGATION ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. BUBBLERS, DRIFLINE, AND SPRAY HEADS SHALL BE SEPARATED ON DIFFERENT VALVES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE.
  - ALL DRIP ZONES SHALL BE INSTALLED WITH A FLUSH VALVE AND DRIP INDICATOR.
  - IRRIGATION CONTRACTOR TO COORDINATE WITH OWNER FOR FINAL CONTROLLER AND RAIN SENSOR LOCATIONS. THE CONTROLLER SHALL BE PLACED IN A LOCKING CABINET APPROPRIATE FOR ITS LOCATION. (INDOOR VS. OUTDOOR USE)
  - IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
  - LOCATE THE AUTOMATIC RAIN / FREEZE SENSOR SHUTOFF DEVICE IN AN AREA THAT IS UNOBSTRUCTED BY TREES, ROOF OVERHANGS, OR ANY OTHER OVERHEAD OBJECT. THE SENSOR SHALL NOT BE PLACED WITHIN THE SPRAY ZONE OF ANY SPRINKLER HEAD, INCLUDING OFF-SITE IRRIGATION. CONTRACTOR SHALL LOCATE SENSOR WITHIN CLOSE PROXIMITY TO THE IRRIGATION CONTROLLER.
  - CONTRACTOR SHALL PERFORM HYDRO-TESTING OF MAIN LINES.
- HYDRO-TESTING TO BE PERFORMED AS LISTED:
- THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FORTY-EIGHT (48) HOURS IN ADVANCE OF TESTING. PRIOR TO BACKFILLING, CONTRACTOR SHALL FILL PIPING WITH WATER, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. TAKING CARE TO PURGE THE AIR FROM IT. A SMALL, HIGH PRESSURE PUMP OR OTHER MEANS OF MAINTAINING A CONTINUOUS WATER SUPPLY SHALL BE CONNECTED TO THE PIPING AND SET SO AS TO MAINTAIN 125 PSI FOR TWO (2) HOURS WITHOUT INTERRUPTION. CONTRACTOR SHALL MAKE ANY NECESSARY CORRECTIONS AND RE-TEST THE SYSTEM UNTIL THE OWNER'S REPRESENTATIVE IS SATISFIED THAT THE SYSTEM IS REASONABLY SOUND.
- ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER SHALL FOLLOW MANUFACTURERS SPECIFICATIONS.
- ALL CONTROL WIRE SHALL BE INSTALLED IN A 1/2" ELECTRICAL CONDUIT.
- ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.

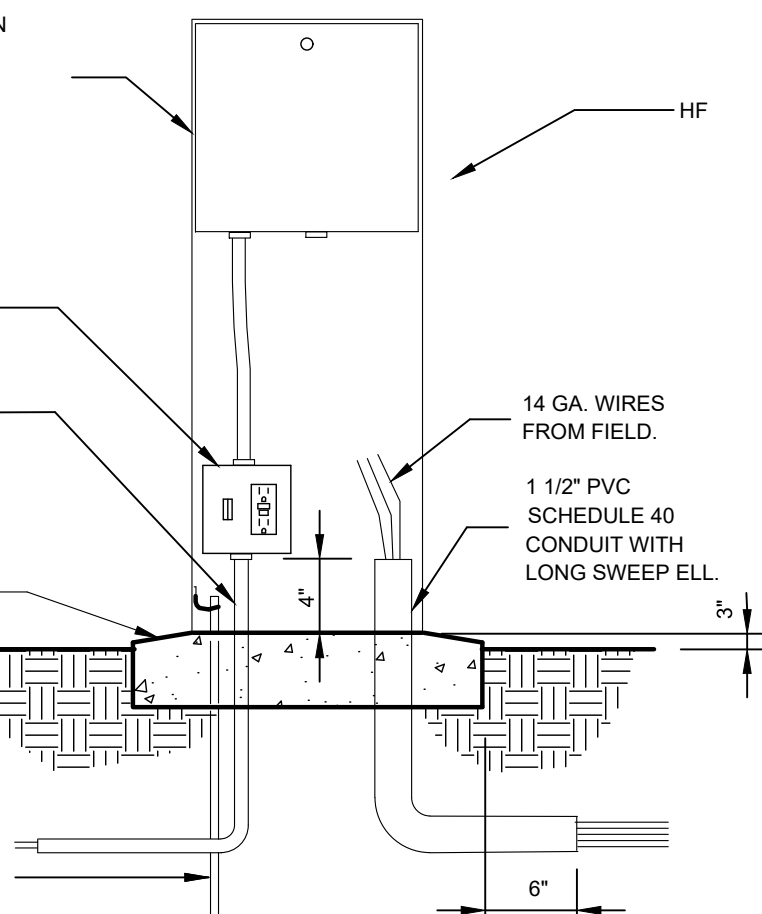
PEDESTAL MOUNT IRRIGATION CONTROLLER ON CONCRETE FOOTING. USE GALV. "J" BOLTS TO SECURE THE CONTROLLER TO THE PAD.

GFI RECEPTACLE AND LOCKING SWITCH.

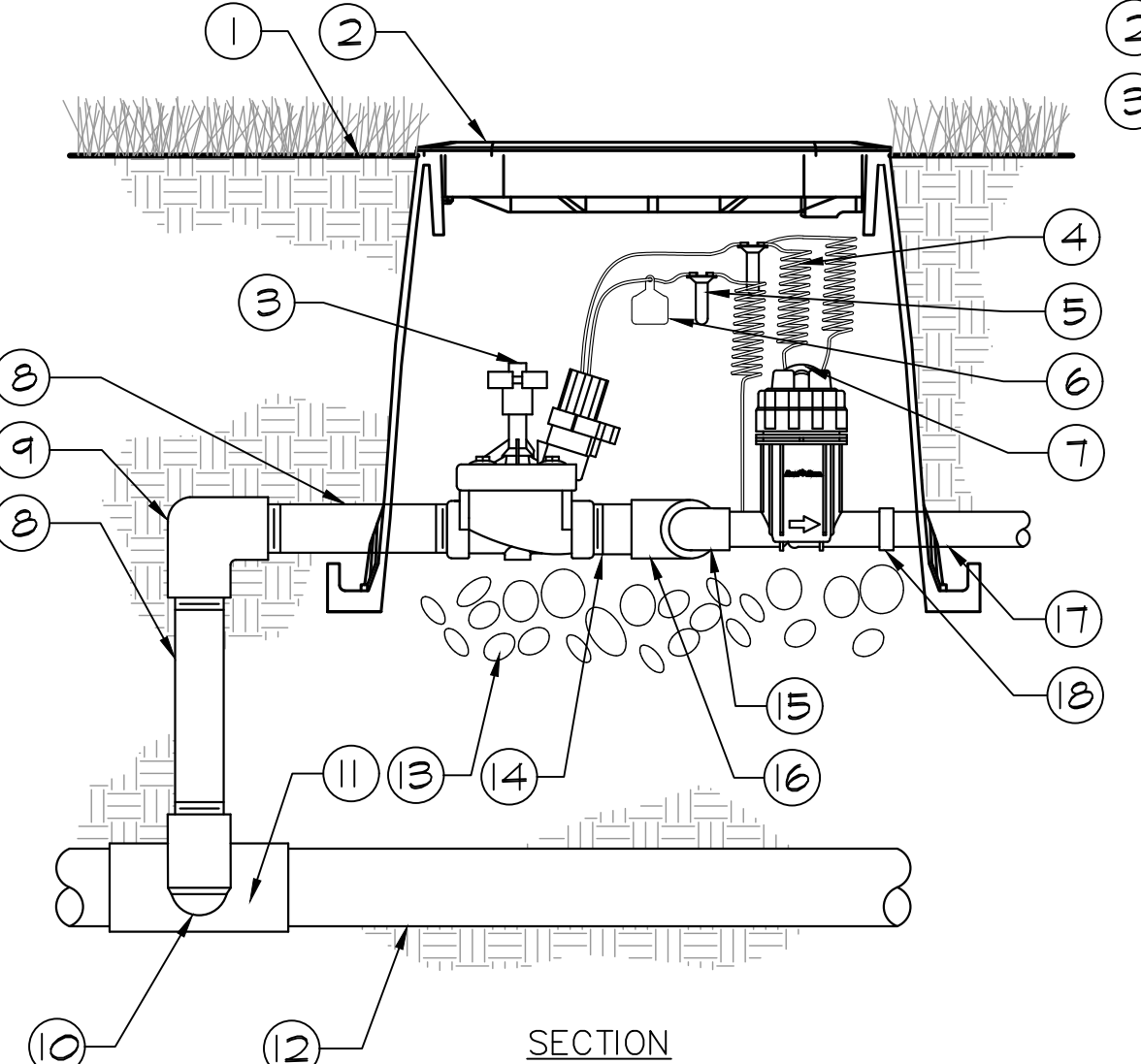
1" SCH. 40 CONDUIT WITH SWEEP ELL FOR ELECTRICAL SOURCE, INSTALL PER LOCAL ELECTRIC CODES.

CONCRETE BASE: 6" MIN. THICKNESS. EXTEND 6" BEYOND OUTSIDE DIMENSIONS OF ENCLOSURE WITH SLOPE FOR DRAINAGE.

8 FT. COPPER GROUND AS PER LOCAL CODE.



**1 IRRIGATION CONTROLLER - PEDESTAL MOUNT**  
SECTION

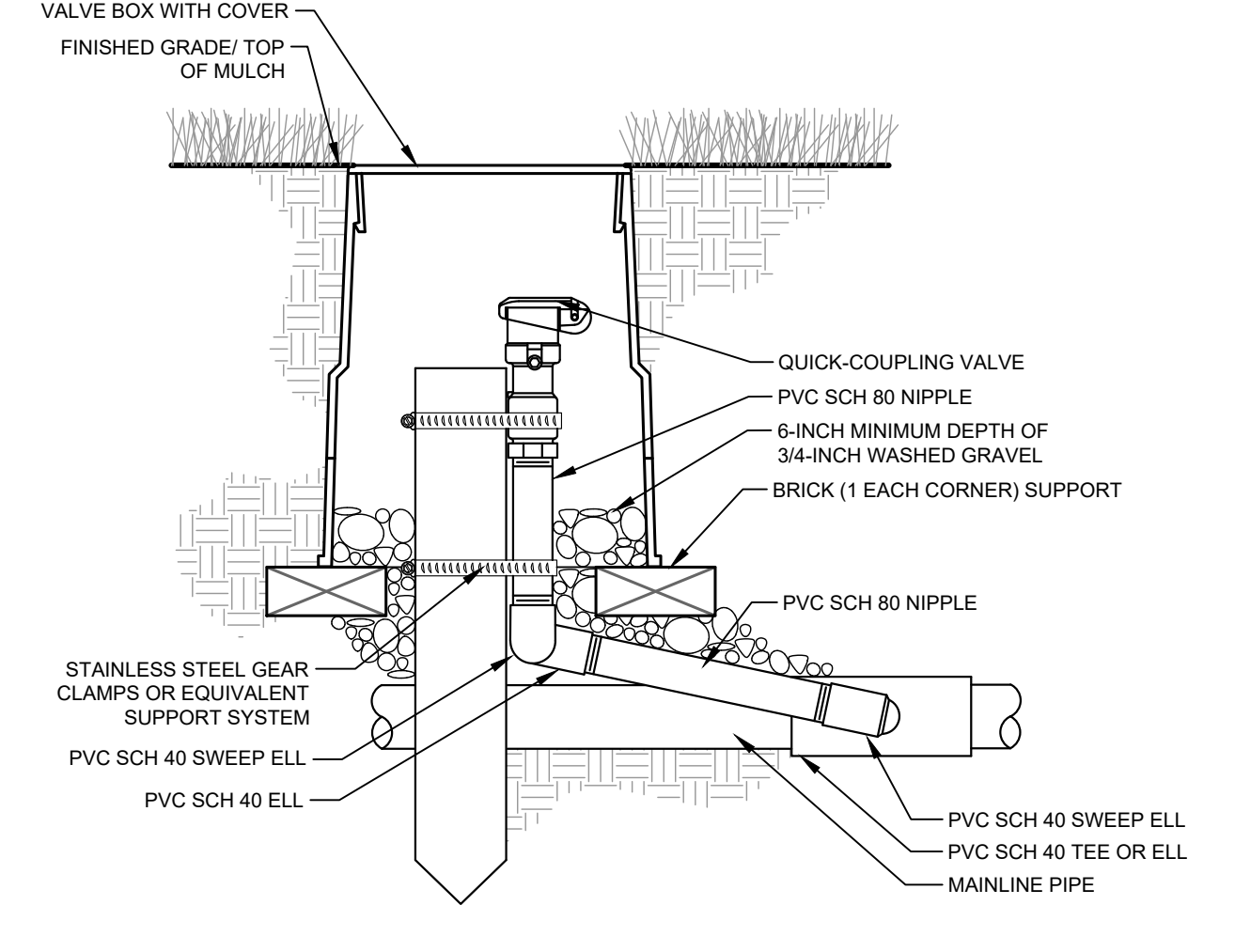
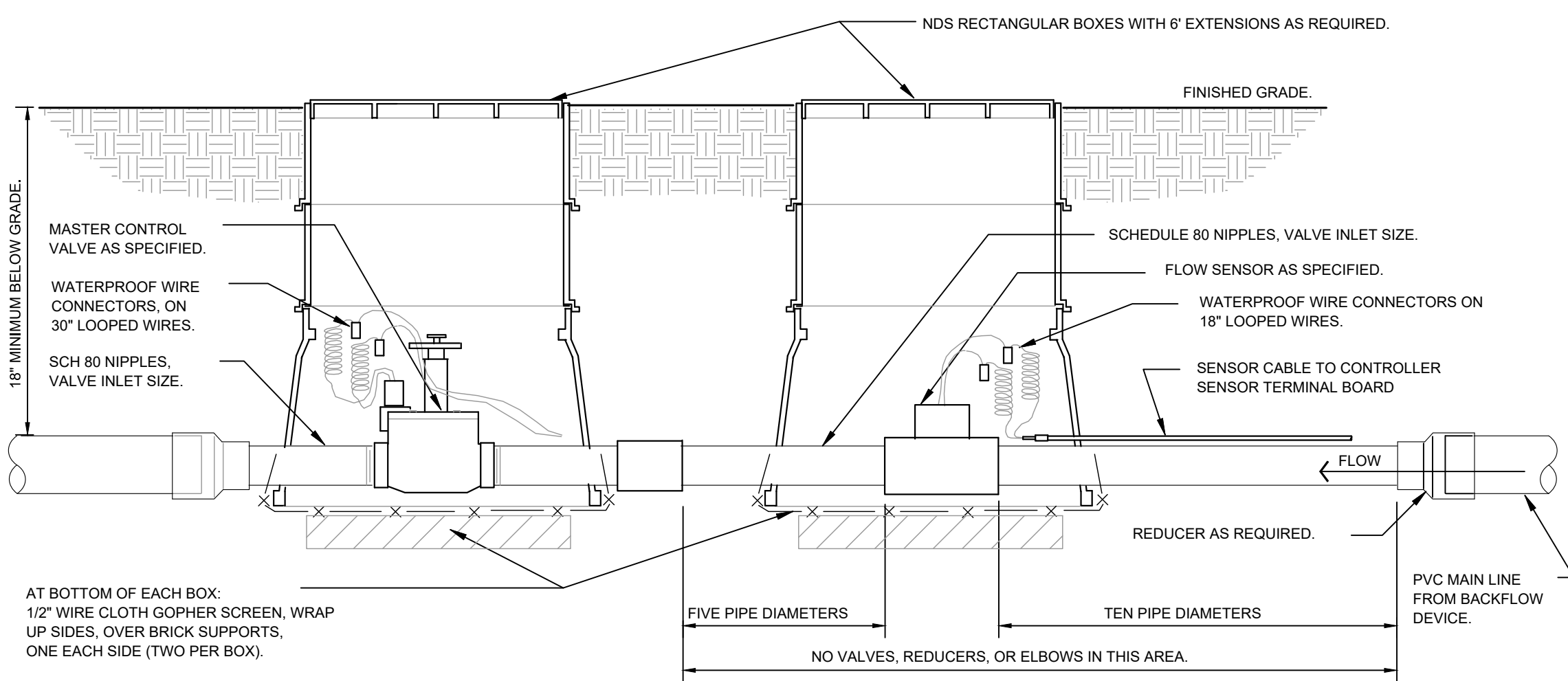


**2 DRIP ZONE VALVE KIT**  
SECTION / PLAN

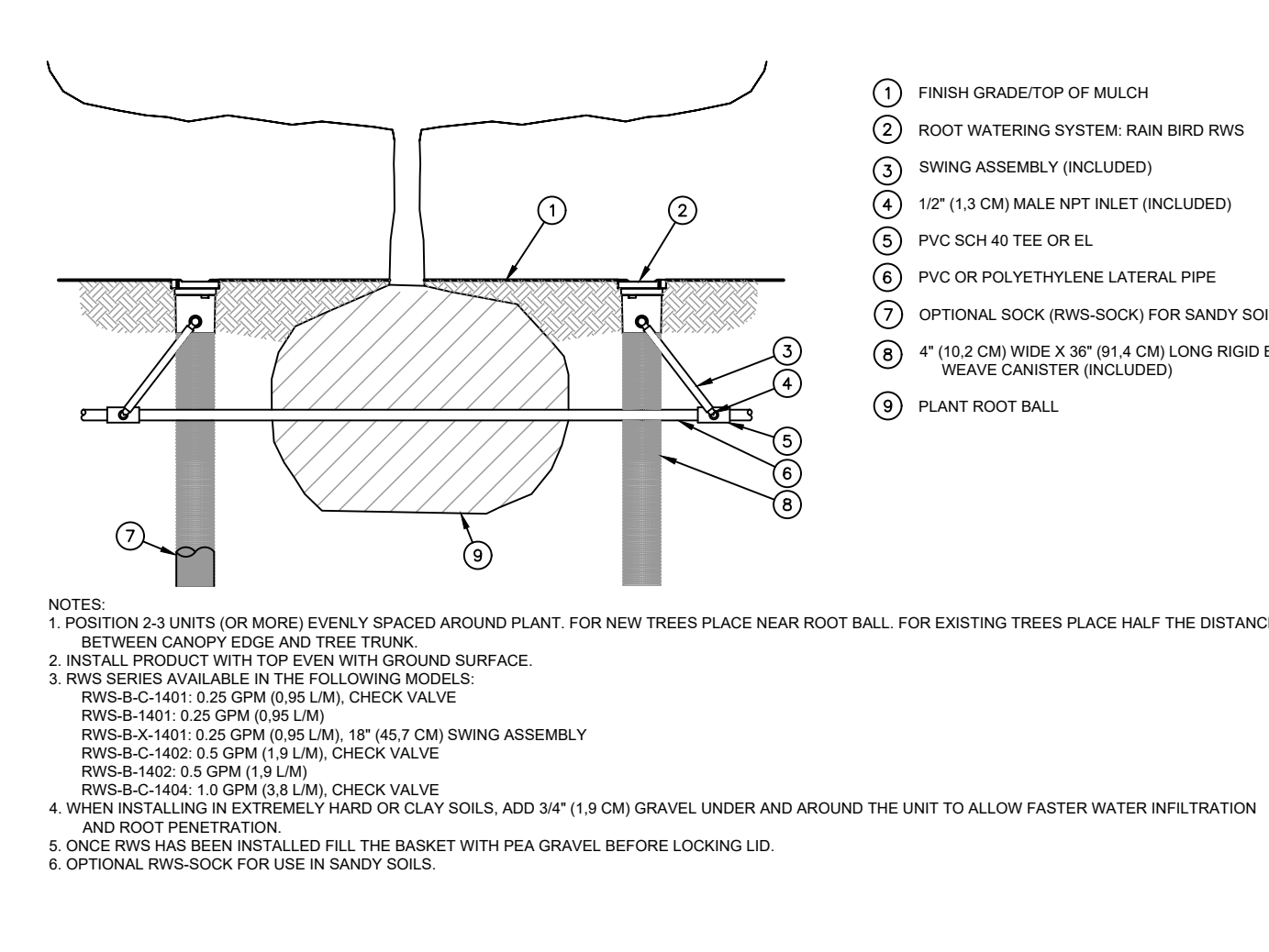
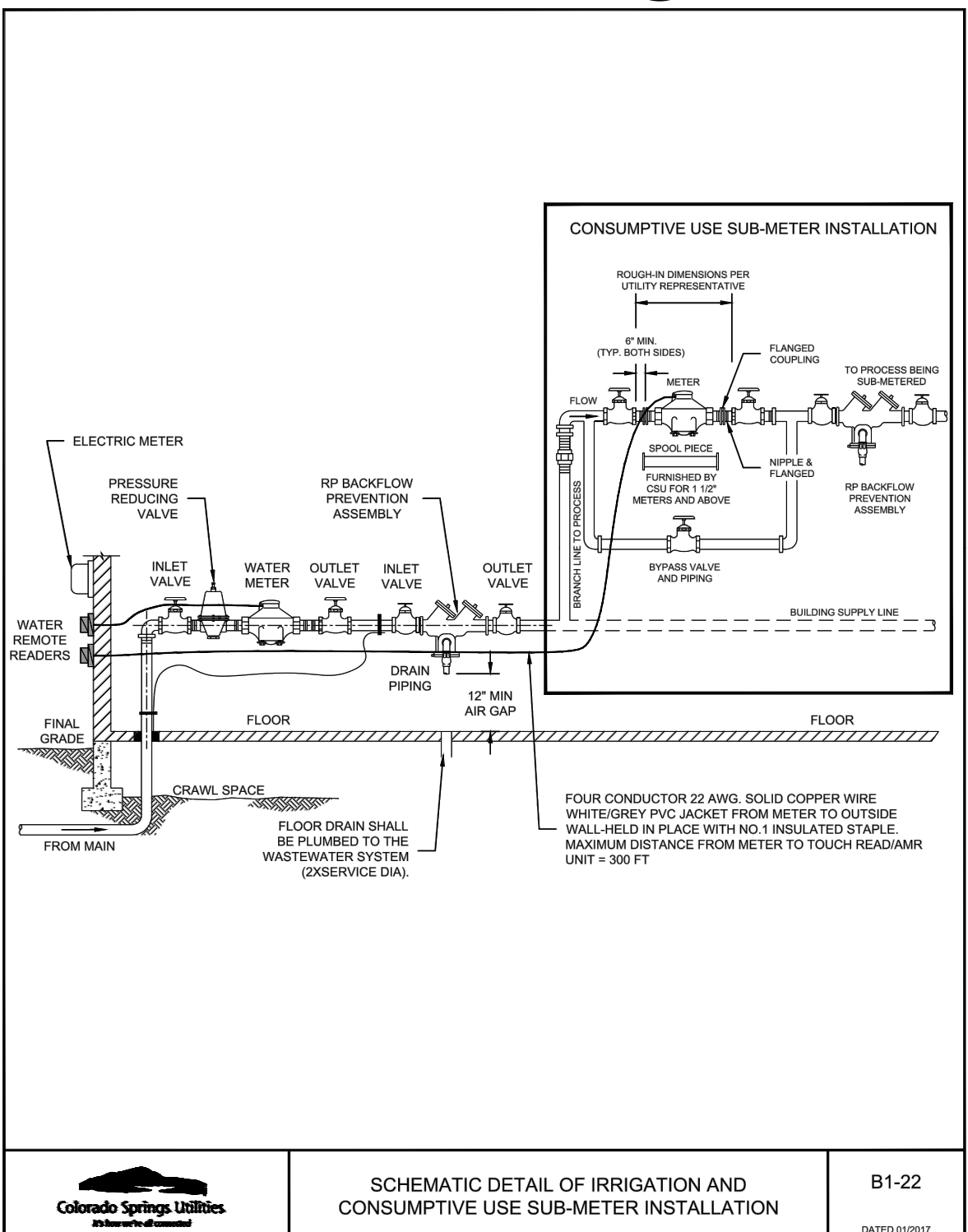
- FINISH GRADE/TOP OF MULCH
- VALVE BOX WITH LOCKING COVER
- REMOTE CONTROL VALVE
- 30-INCH LINEAR LENGTH OF WIRE, COILED
- WATERPROOF CONNECTION
- ID TAG
- PRESSURE REGULATING QUICK CHECK BASKET FILTER
- PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- PVC SCH 40 ELL
- PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
- PVC SCH 40 TEE OR ELL
- MAINLINE PIPE
- 6-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- PVC SCH 80 NIPPLE, CLOSE
- PVC SCH 40 ELL
- PVC SCH 40 TEE
- LATERAL PIPE
- PVC SCH 40 FEMALE ADAPTOR

- LOCATE ALL VALVES IN PLANTING BEDS WITH A MINIMUM OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT. UNLESS OTHERWISE NOTED. PIPE SIZES ON EITHER SIDE OF SECTION VALVES CONNECTING MAINLINE TO SECTION LATERAL SHALL BE ONE (1) PIPE SIZE LARGER THAN VALVE SIZE. WHERE MAINLINES RUN PARALLEL TO PAVEMENT OR CURBING, THE MAINLINE SHALL BE OFFSET 2'-0" FROM THE EDGE OF PAVEMENT OR CURB.
  - IRRIGATION ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. BUBBLERS, DRIFLINE, AND SPRAY HEADS SHALL BE SEPARATED ON DIFFERENT VALVES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE.
  - ALL DRIP ZONES SHALL BE INSTALLED WITH A FLUSH VALVE AND DRIP INDICATOR.
  - IRRIGATION CONTRACTOR TO COORDINATE WITH OWNER FOR FINAL CONTROLLER AND RAIN SENSOR LOCATIONS. THE CONTROLLER SHALL BE PLACED IN A LOCKING CABINET APPROPRIATE FOR ITS LOCATION. (INDOOR VS. OUTDOOR USE)
  - IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
  - LOCATE THE AUTOMATIC RAIN / FREEZE SENSOR SHUTOFF DEVICE IN AN AREA THAT IS UNOBSTRUCTED BY TREES, ROOF OVERHANGS, OR ANY OTHER OVERHEAD OBJECT. THE SENSOR SHALL NOT BE PLACED WITHIN THE SPRAY ZONE OF ANY SPRINKLER HEAD, INCLUDING OFF-SITE IRRIGATION. CONTRACTOR SHALL LOCATE SENSOR WITHIN CLOSE PROXIMITY TO THE IRRIGATION CONTROLLER.
  - CONTRACTOR SHALL PERFORM HYDRO-TESTING OF MAIN LINES.
- HYDRO-TESTING TO BE PERFORMED AS LISTED:
- THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FORTY-EIGHT (48) HOURS IN ADVANCE OF TESTING. PRIOR TO BACKFILLING, CONTRACTOR SHALL FILL PIPING WITH WATER, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. TAKING CARE TO PURGE THE AIR FROM IT. A SMALL, HIGH PRESSURE PUMP OR OTHER MEANS OF MAINTAINING A CONTINUOUS WATER SUPPLY SHALL BE CONNECTED TO THE PIPING AND SET SO AS TO MAINTAIN 125 PSI FOR TWO (2) HOURS WITHOUT INTERRUPTION. CONTRACTOR SHALL MAKE ANY NECESSARY CORRECTIONS AND RE-TEST THE SYSTEM UNTIL THE OWNER'S REPRESENTATIVE IS SATISFIED THAT THE SYSTEM IS REASONABLY SOUND.
- ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER SHALL FOLLOW MANUFACTURERS SPECIFICATIONS.
- ALL CONTROL WIRE SHALL BE INSTALLED IN A 1/2" ELECTRICAL CONDUIT.
- ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.

**4 MASTER CONTROL VALVE / FLOW SENSOR ASSEMBLY**  
SECTION



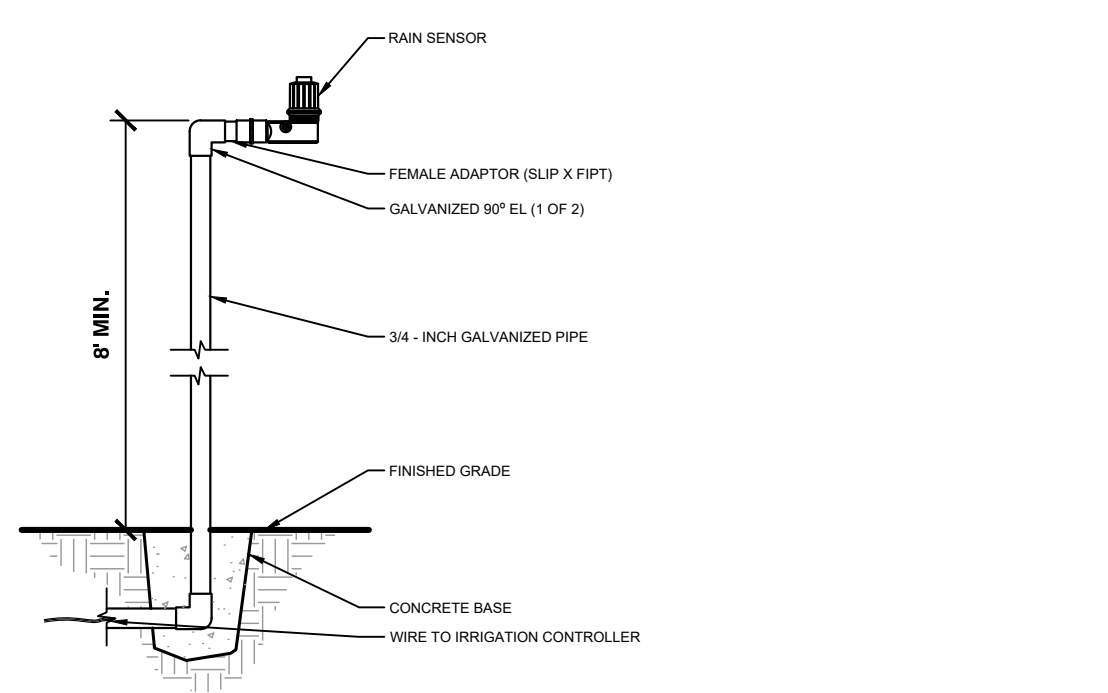
**5 TYPICAL QUICK COUPLER**  
SECTION



**6 ROOT WATERING SYSTEM**  
SECTION

- FINISH GRADE/TOP OF MULCH
- ROOT WATERING SYSTEM: RAIN BIRD RWS
- SWING ASSEMBLY (INCLUDED)
- 1/2" (1.3 CM) MALE NPT INLET (INCLUDED)
- PVC SCH 40 TEE OR EL
- PVC OR POLYETHYLENE LATERAL PIPE
- OPTIONAL SOCK (RWS-SOCK) FOR SANDY SOILS
- 4" (10.2 CM) WIDE X 36" (91.4 CM) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)
- PLANT ROOT BALL

NOTES:  
1. POSITION 2-3 UNITS (OR MORE) EVENLY SPACED AROUND PLANT. FOR NEW TREES PLACE NEAR ROOT BALL. FOR EXISTING TREES PLACE HALF THE DISTANCE BETWEEN CANOPY EDGE AND TREE TRUNK.  
2. INSTALL PRODUCT WITH TOP EVEN WITH GROUND SURFACE.  
3. RWS SERIES AVAILABLE IN THE FOLLOWING MODELS:  
RWS-B-C-1401: 0.25 GPM (0.95 L/M), CHECK VALVE  
RWS-B-1401: 0.25 GPM (0.95 L/M)  
RWS-B-X-1401: 0.25 GPM (0.95 L/M), 18" (45.7 CM) SWING ASSEMBLY  
RWS-B-C-1402: 0.5 GPM (1.9 L/M), CHECK VALVE  
RWS-B-1402: 0.5 GPM (1.9 L/M)  
RWS-B-C-1404: 1.0 GPM (3.8 L/M), CHECK VALVE  
RWS-B-1404: 1.0 GPM (3.8 L/M)  
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1.9 CM) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.  
5. ONCE RWS HAS BEEN INSTALLED, FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.  
6. OPTIONAL RWS-SOCK FOR USE IN SANDY SOILS.

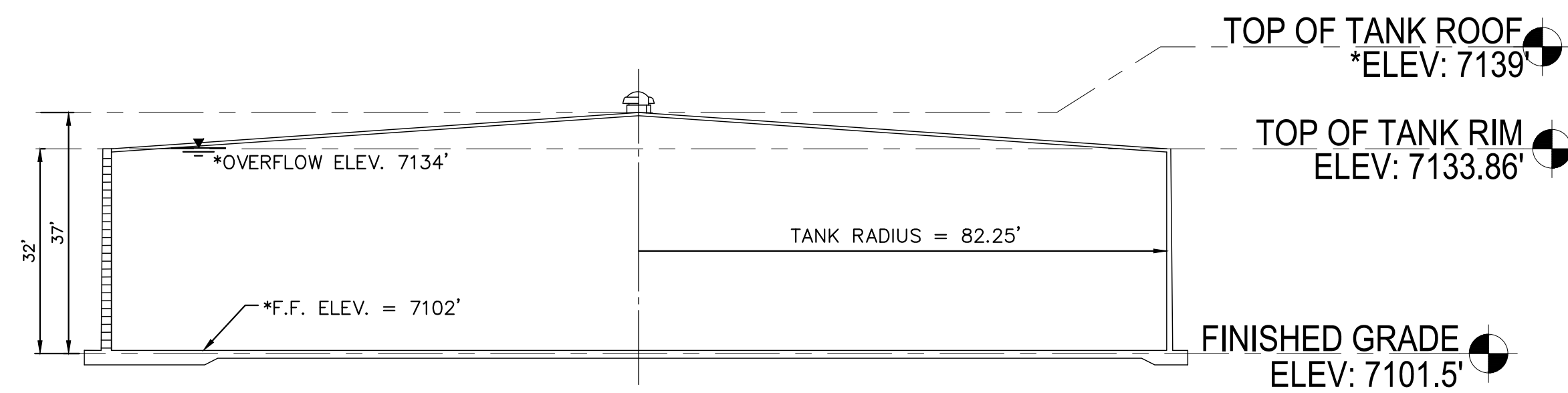


**7 RAIN SENSOR - POLE MOUNT**  
SECTION

CITY APPROVAL:

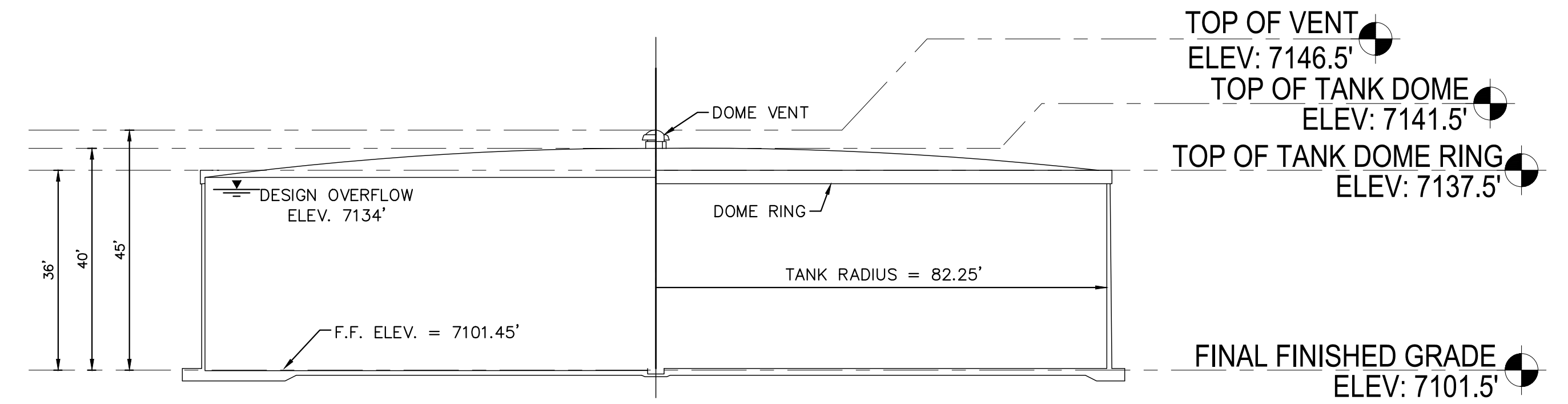






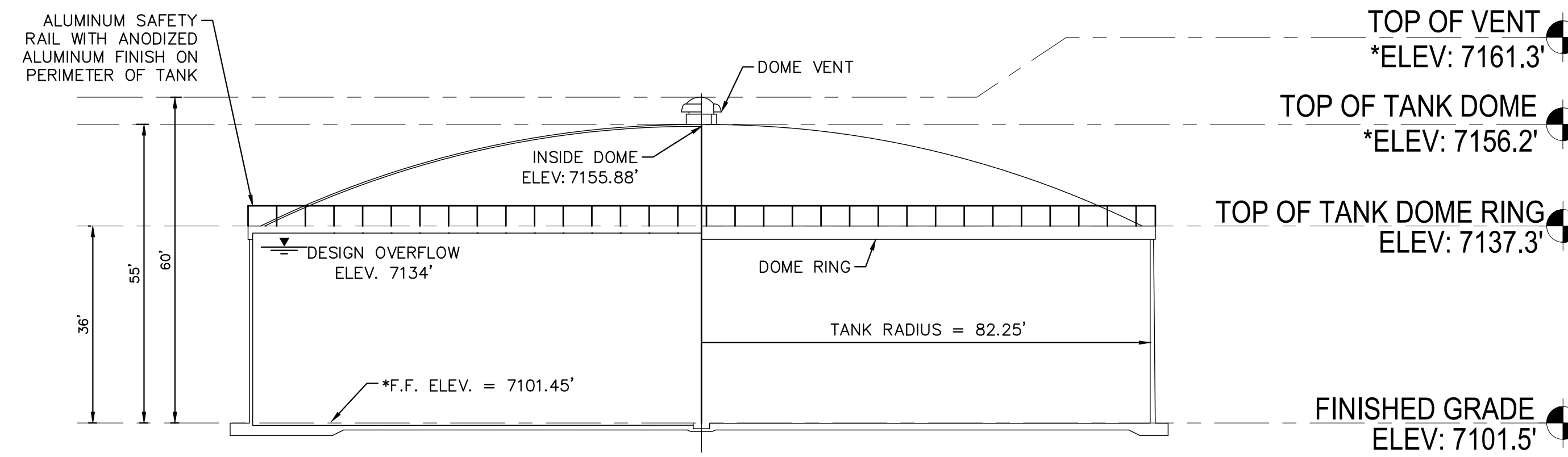
**NOTES:**  
 1. ELEVATIONS LISTED ABOVE WERE SURVEYED ON 9/11/2023. ELEVATIONS MARKED WITH \* WERE CALCULATED BASED ON SURVEY AND DESIGN DRAWINGS.

1 EXISTING TANK ELEVATION  
 C2.00 SCALE: 1" = 20'



**NOTES:**  
 1. ELEVATIONS LISTED ABOVE WERE CALCULATED BASED ON ESTIMATED MEASUREMENTS SHOWN IN APPROVED DEVELOPMENT PLAN DOCUMENTS

2 APPROVED DEVELOPMENT PLAN ELEVATION  
 C2.00 SCALE: 1" = 20'



**NOTES:**  
 1. ELEVATIONS LISTED ABOVE WERE SURVEYED ON 9/11/2023. ELEVATIONS MARKED WITH \* WERE CALCULATED BASED ON SURVEY AND DESIGN DRAWINGS.  
 2. FINAL GRADING WILL BE COMPLETED UPON COMPLETION OF THE NEW STORAGE TANK. CURRENT GRADE WAS SURVEYED AT 7101.15'. FINISHED GRADE IS SHOWN ABOVE AT 7101.5'.

3 APPROVED STRUCTURAL DESIGN / TANK CONSTRUCTED ON SITE ELEVATION  
 C2.00 SCALE: 1" = 20'

CITY APPROVAL:

SHEET TITLE	TANK ELEVATION
SHEET NUMBER	12 OF 12