Accepted by Santa Fe County

_____	_____	_____
Signature (Public Works Director or Designee)	Print Name	Date

Inspected/Concurrence Architect/Engineer

_____	_____	_____
Signature	Print Name	Date

PUNCH LIST

A list of items (Punch List) to be completed or corrected, verified by the Architect/Engineer and County, is appended hereto. Failure to include any incomplete items on such list does not alter the responsibility of the Contractor to provide all Work in complete conformance with the Contract Documents.

The Contractor shall complete or correct the work on the punch list appended hereto by _____
(Date)

The punch list consists of _____(indicate number of items) items.

The Work performed under this Contract has been reviewed and found to be substantially complete by the Director of Public Works who has hereby established the Date of Substantial Completion as _____ (date) which is also the date of commencement of all warranties and guarantees required by the Contract Documents. The Date of Substantial Completion of the Work or designated portion thereof is the date established by the Director of Public Works (or designee) when construction is sufficiently complete, in accordance with the Contract Documents, so the County may occupy the Work, or designated portion thereof, for the use for which it is intended.

The County accepts the Work or designated portion thereof as substantially complete and assumes full possession thereof, in accordance with the contract documents.

Punch List Items: (Use additional sheets if necessary)

APPENDIX F

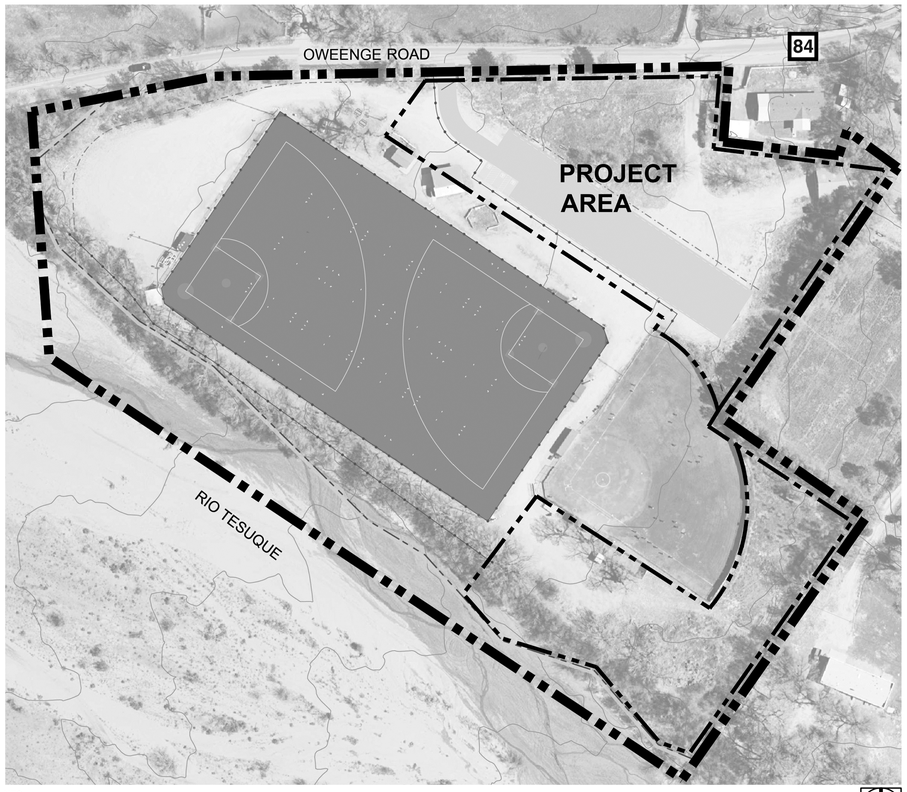
PLANS AND SPECIFICATIONS

POJOAQUE VALLEY RECREATION COMPLEX - PHASE 2

POJOAQUE, NEW MEXICO

CONSTRUCTION DRAWINGS

February 17, 2017



NTS

NORTH

owner

Santa Fe County
102 Grant Avenue
Santa Fe, New Mexico 87501-2061

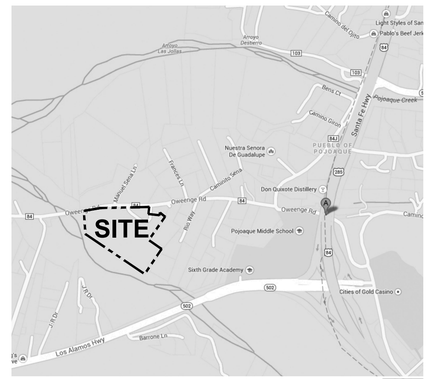
owner representative

Santa Fe County
contact: Colleen Baker
Project Manager
tel: 505.992.9868
e: cbaker@santafecountynm.gov

project location

62 County Road 84 (Oweenge Road)
Santa Fe County, New Mexico 87506

location map



NTS

NORTH

project data

LOT INFO	TRACT A
LOT AREA	± 11.05 ACRES
PROJECT AREA	± 3.35 ACRES (±146,000 SF)
ROOF AREA (EXISTING)	
	985 SF CONCESSIONS
	1470 SF STORAGE BUILDING
	1160 SF DUGOUTS (6 TOTAL)
	+ 360 SF PUMP / WELL BUILDING
	3975 SF TOTAL
LOT COVERAGE	3975 SF (ROOF AREA) / 11.05 AC = ± .8%
ALLOWABLE BUILDING HEIGHT	24'-0" MAXIMUM
ACTUAL BUILDING HEIGHT	15'-4" (CONCESSIONS BUILDING)
OCCUPANCY GROUP	NR-NON RESIDENTIAL
ZONING	PVCD TRADITIONAL COMMUNITY(PVCD-TC)
DWELLING UNITS	0 UNITS
SECTION / LOT / BLOCK INFO	SECTION 7, T.19N., R.9E., N.M.P.M. SANTA FE COUNTY, NEW MEXICO
WATER	ON-SITE WELL; OSE FILE NO. 02091
PARKING	144 TOTAL: 93 ADDITIONAL SPACES INCLUDING 5 ADDITIONAL ADA SPACES (8 TOTAL ADA SPACES)

project description

The Pojoaque Valley Recreation Complex is a 11.05 acre area of public land along the Rio Tesuque off Oweenge Road (County Road 84) within Santa Fe County. It is an existing community park with two sports fields (one synthetic turf multi-purpose field and one grass softball field) with sports field lighting, a restroom/concessions building, utility building, storage building, and a parking area.

Phase II improvements consists of expanding the parking area to add approximately 90 additional parking spaces, improving site drainage, site access control, and providing landscape improvements. Site improvements provide more clearly defined vehicular and pedestrian access areas. Maintenance access is provided to the enclosed maintenance yard and at key locations to the park.

deductive alternate 1

Remove planting material and irrigation installation from scope of work (see L4-01 and IR2-01).
Base bid assumes reseeding in disturbed areas.

sheet index

Sheet No.	Sheet Title
L0-00	GENERAL NOTES
L0-01	KEYED PLAN
L0-02	EXISTING CONDITIONS PLAN (SURVEY)
L1-01	DEMOLITION PLAN - PARKING
L1-02	DEMOLITION PLAN - FIELD

civil drawings

C1-01	GENERAL CIVIL NOTES
C2-01	SITE PLAN
C2-02	OVERALL GRADING AND DRAINAGE PLAN
C2-03	GRADING AND DRAINAGE PLAN - PARKING
C2-04	GRADING AND DRAINAGE PLAN - FIELD
C4-01	TYPICAL SECTIONS
C4-02	SITE DETAILS

landscape drawings

L2-01	FENCE AND BOLLARD LAYOUT - PARKING
L2-02	FENCE AND BOLLARD LAYOUT - FIELD
L3-01	FENCE AND BOLLARD DETAILS
L4-01	PLANTING PLAN - PARKING
L4-02	PLANTING PLAN - FIELD
L5-01	PLANTING DETAILS
IR1-01	IRRIGATION COVER
IR2-01	IRRIGATION PLAN
IR3-01	IRRIGATION DETAILS
IR3-02	IRRIGATION DETAILS

APPROVED BY SANTA FE COUNTY

5.24.2017

PROJECT AND FACILITIES DIVISION DIRECTOR
MARK HOGAN, AIA

DATE

APPROVED BY SANTA FE COUNTY

5/25/17

PROJECT MANAGER
COLLEEN BAKER

DATE

landscape architect

design office
1300 luisa street, suite 24
Santa Fe, NM 87505
contact: Claudia Meyer Horn, PLA
tel: 505.983.1415
e:chorn@do-designoffice.com

civil engineer

Wilson and Company
4900 Lang Ave. NE
Albuquerque, NM 87109
contact:Tyler Ashton
tel: 505.348.4121
e: Tyler.Ashton@wilsonco.com

irrigation consultant

HydroSystems-KDI, Inc.
860 Tabor Street, Suite 200
Lakewood, Colorado
contact: Amber Clark
tel: 303.980.5327
e:amberc@hydrosystemskdi.com

GENERAL CONDITIONS NOTES

1. Work performed shall comply with the following:
   A. These General Notes, Construction Documents and Specifications.
   B. All applicable local, state,and federal codes, ordinances and regulations. All codes listed in Specifications and Drawings shall be inclusive of all codes, regulations and requirements adopted by the State of New Mexico, including all Amendments.
2. Source of base information is Blueline Construction Survey Department and is assumed to be correct. Report any discrepancies immediately to the Owner's representative.
3. Verify locations and grade information of pertinent site improvements installed under other contracts. If any part of this plan cannot be followed due to site conditions, contact owner's representative for instructions prior to commencing work.
4. Contact local underground utility services for utility location and identification prior to commencing work.
5. Perform excavation in the vicinity of underground utilities with care and by hand, if necessary. The contractor bears full responsibility for this work and disruption or damage to utilities shall be repaired immediately and at no expense to the owner. No additional compensation or time extension for delays, inconveniences, or damages sustained will be made to contractor due to interferences from utility appurtenances or the operation of moving them resulting from contractor's negligence.
6. Field verify all elevations, dimensions, right-of-way and boundary limits prior to the beginning of construction. The contractor shall limit all work on this project within the existing right-of-way or public easement.

SITE DEMOLITION NOTES

1. Items shall remain unless designated for removal. Remove designated items shown on the plan to the full depth of their construction unless otherwise noted. Coordinate demolition work with work to be performed under this contract.
2. Verify the location and dimension of items to be removed prior to commencement of the work.
3. All concrete and asphalt removal shall be saw cut. Edges of material to remain shall be shored up and protected during construction to preserve edge intact. Repairs to damaged edges to be done with care and at no cost to the owner.
4. Remove and dispose of existing construction debris within improvement areas prior to construction. Construction debris disposal locations as indicated by the contract documents or as directed by the Owner's representative.
5. Salvaged items to be removed with care, cleaned, and stored on site for future use or transported to off site location as directed by owner.
6. Items encountered below grade and not shown on the drawings shall be brought to the attention of the Landscape Architect.
7. Contact the local underground service for utility location and identification prior to demolition.
8. Perform excavation in the vicinity of existing utilities by hand where applicable. The Contractor is responsible for damage to existing utilities caused by any person, vehicle, equipment or tool related to the execution of the Contract.
9. Topsoil to be salvaged from areas indicated on plans that will be disturbed by excavation, filling, road building, or compaction by equipment. A four to six inch stripping depth is common, but depth will depend on the soil profile at the site. Topsoil stockpiled for future use shall be relatively free from large roots, sticks, weeds, brush, stones larger than (1) inch diameter, or other litter and waste products including other extraneous materials not conducive to plant growth.
10. Location of any on-site topsoil stockpiles shall be identified on the approved plans or coordinated with the owner's representative prior to demolition. Stockpile locations shall be identified to avoid slopes and natural drainageways and to avoid traffic routes. Topsoil stockpile shall be located in areas to avoid erosion of said stockpile to offsite areas.
11. Topsoil stockpiles are to have a minimum 1.5 feet high (or higher) perimeter berm around the circumference of the pile for sediment control and topsoil conservation. Construction of the perimeter ditch/berm should precede any activities associated with material placement in the stockpile. Topsoil stockpile height shall not exceed 10 feet.
12. Use sediment barriers (straw bales, silt fences) around the perimeter of the stockpile. Apply temporary stabilization to the stockpile within seven days of the formation of the stockpile either in the form of temporary seeding or mulch if it is to remain unused for longer than 30 days. If stockpile will not be used within 12 months, it should be stabilized through seeding of permanent vegetation so as to minimize soil erosion by both wind and water.

LAYOUT NOTES

1. On-site verification of all dimensions and conditions shall be the responsibility of the General Contractor. Noted dimensions take precedence over scale, larger scale over smaller scale, addenda and clarifications over previous documents.
2. Contractor to lay out site elements and verify layout with Landscape Architect prior to construction. Site elements are dimensioned on the Civil Site Plan C2-01 and the Fence and Bollard Layout Plan L2-01.
3. For dimensions of existing buildings and related work, refer to the as built architectural drawings. Architectural drawings can be obtained from Santa Fe County.
4. Where dimensions are called as "equal," space referenced items equally, measured to their center lines.
5. Measurements are to face of building, wall or fixed site improvement. Dimensions to centerlines is as indicated.
6. Install intersecting elements at 90 degree angles to each other unless otherwise noted.
7. Install new hardscape paving elements (curbs, ramps, walkways, patios, trails, pavement, etc.) flush with existing hardscape paving elements unless otherwise noted.
8. Provide expansion joints where concrete flatwork meets vertical structures such as walls, curbs, steps and building elements.
9. Expansion joints in concrete walkways shall be located twenty feet (20'-0") O.C. maximum or as indicated. Control joints in concrete walkways shall be located five feet (5'-0") O.C. maximum or as indicated.
10. All radii of walkway intersections on the plans shall be 4'-0" or as indicated on the plans.
11. The contractor shall ensure ADA compliance for construction of ADA features and appurtenances (including, but not limited to, sidewalk & curb ramp cross slopes, ramp slopes, thresholds, site furnishings, etc) as detailed in the plans and in accordance with referenced standard drawing, specifications and established ADA guidelines and standards. The contractor is responsible for field checking slopes and dimensions of all formwork for compliance prior to installation of concrete. Santa Fe County reserves the right to inspect any ADA features and appurtenances at any time before final completion of the project and may require the contractor to remove, replace, and/or correct any work at the contractors expense that in not in compliance, as determined by the project manager.
12. All temporary access routes for pedestrians shall be ADA compliant.
13. Coordinate finish grade of new elements with existing elements to remain to ensure ADA compliance and positive drainage away from site elements. If grades of new site elements prevent or obstruct proper site drainage, contractor to notify owner and landscape architect and make mutually agreed upon adjustments prior to installing site improvements.
14. Contractor to keep disturbance to adjacent landscape areas to a minimum and to avoid disturbance and demolition of existing vegetation designated for preservation except as approved by Landscape Architect. When excavation near plant material to be protected must be carried out, damage to be limited by root pruning. Root pruning shall be completed before grading is started.

LANDSCAPE PLANTING NOTES

1. Verify locations of pertinent site improvements installed under other sections. If any part of this plan cannot be followed due to site conditions, contact Landscape Architect for instructions prior to commencing work.
2. Exact locations of plant materials to be approved by the Landscape Architect in the field prior to installation. Landscape Architect reserves the right to adjust plants to exact location in field.
3. Verify plant counts and square footages: quantities are provided as Owner information only. If quantities on plant list differ from graphic indications, then graphics shall prevail.
4. Contact the local underground utility services for utility location and identification.
5. Perform excavation in the vicinity of underground utilities with care and if necessary, by hand. The Contractor bears full responsibility for this work and disruption or damage to utilities shall be repaired immediately at no expense to the Owner.
6. Trees shall bear same relation to finished grade as it bore to existing.
7. Trees to be planted a minimum of 4 feet from face of building or pavement, except as approved by Landscape Architect.
8. Provide matching forms and sizes for plant materials within each species and size designated on the drawings.
9. Prune newly planted trees only as directed by Landscape Architect.
10. Align and equally space in all directions trees and shrubs so designated per these notes and drawings.
11. Finish grades of planter areas shall be 1 1/2 inches below adjacent paving or top of wall unless otherwise noted.
12. Cut and remove burlap from top 1/3 of ball.
13. Landscape Architect to review plant materials at source or by photographs prior to digging or shipping of plant materials.
14. Revegetate all areas disturbed due to construction activities as outlined in the contract documents. Review extent of areas to be revegetated with Landscape Architect prior to commencing work.
15. Contractor to de-compact soils in planting areas by roto-tilling, disking or ripping to a depth of 6 - 8" minimum and preferably a depth of 12 - 18". De-compaction of small planter areas, such as those in parking lot areas, may require the removal of the compacted soil to a depth of 18" or more and then re-installed loosely with required amendments. Always remove debris over 2" in size.
16. When performing soil de-compaction, multiple passes across the area will be required and, when possible, should be at varying angles to ensure adequate coverage. When using disc or ripping equipment, it is required that the final passes over the area be made with a roto-tiller to break up any large clumps to make final grading easier.
17. During the remainder of the landscape installation, various areas of the site may be re-compacted due to the use of equipment and vehicles. This compaction is typically limited to the upper 4-6" of the soil. Prior to the installation of plant material in these areas, the compaction shall be reduced to 80% or less using previously described methods.

IRRIGATION NOTES

1. See general conditions notes.
2. Point of connection for irrigation mainline is as noted on plans.
3. Extend control wires to all irrigation valves as shown on plans.
4. Contractor to verify that water source is capable of providing pressure and gpm for systems as designed prior to beginning any irrigation work.
5. Locations of irrigation lines, valves, heads, and all other related irrigation appurtenances shown on these drawings are diagrammatic only. The exact location of the above need to be approved by the Landscape Architect.
6. Stake all utilities, including sewer and drainage prior to any excavation for irrigation.

TABLE OF ABBREVIATIONS

APPROX	APPROXIMATE	MH	MANHOLE
ARCH	ARCHITECT	MIN	MINIMUM
AVG	AVERAGE	MISC	MISCELLANEOUS
B+B	BALLED AND BURLAPPED	N	NORTH
BF	BOTTOM OF FOOTING	NIC	NOT IN CONTRACT
BLDG	BUILDING	NO	NUMBER
BM	BENCHMARK	NOM	NOMINAL
BOC	BACK OF CURB	NTS	NOT TO SCALE
BR	BOTTOM OF RAMP	OC	ON CENTER
BS	BOTTOM OF STEP	OD	OUTSIDE DIAMETER
BW	BOTTOM OF WALL	OPP	OPPOSITE
CAL	CALIPER	PAR	PARALLEL
CAP	CAPACITY	PC	POINT OF CURVATURE
CF	CUBIC FEET	PE	POLYURETHANE
CHAM	CHAMFER	PERF	PERFORATED
CIP	CAST IN PLACE	PED	PEDESTRIAN
CJ	CONTROL JOINT	PI	POINT OF INTERSECTION
CL	CENTER LINE	PL	PROPERTY LINE
CLR	CLEARANCE	PT	POINT, POINT OF TANGENCY
CM	CENTIMETER	PVC	POLYVINYL CHLORIDE
CO	CLEAN OUT	PVMT	PAVEMENT
COMP	COMPACTED	PVR	PAVER
CONC	CONCRETE	QTY	QUANTITY
CONST	CONSTRUCTION	R	RADIUS
CONT	CONTINUOUS	REF	REFERENCE
CONTR	CONTRACTOR	REINF	REINFORCE(D)
CU	CUBIC	REQ'D	REQUIRED
CY	CUBIC YARD	REV	REVISION, REVISED
DEMO	DEMOLISH, DEMOLITION	ROW	RIGHT OF WAY
DIA	DIAMETER	RT	RIGHT
DIM	DIMENSION	S	SOUTH
DTL	DETAIL	SS	SANITARY SEWER
DWG	DRAWING	SCH	SCHEDULE
E	EAST	SD	STORM DRAIN
EA	EACH	SEC	SECTION
EJ	EXPANSION JOINT	SF	SQUARE FOOT (FEET)
EL	ELEVATION	SHT	SHEET
ELEC	ELECTRICAL	SIM	SIMILAR
ENG	ENGINEER	SNT	SEALANT
EQ	EQUAL	SPECS	SPECIFICATIONS
EQUIP	EQUIPMENT	SQ	SQUARE
EST	ESTIMATE	ST	STORM SEWER
E.W.	EACH WAY	SY	SQUARE YARD
EXIST	EXISTING	STA	STATION
EXP	EXPANSION, EXPOSED	STD	STANDARD
FFE	FINISHED FLOOR ELEVATION	STL	STEEL
FG	FINISHED GRADE	STRL	STRUCTURAL
FIN	FINISH	SYM	SYMMETRICAL
FL	FLOW LINE	T&B	TOP AND BOTTOM
FOW	FACE OF WALL	TBC	TOP OF BACK CURB
FT	FOOT (FEET)	TC	TOP OF CURB
FTG	FOOTING	TF	TOP OF FOOTING
GA	GAUGE	TRANS	ELECTRIC TRANSFORMER
GAL	GALVANIZED	TOC	TOP OF CONCRETE
GEN	GENERAL	TOPO	TOPOGRAPHY
HORIZ	HORIZONTAL	TR	TOP OF RAMP
HP	HIGH POINT	TSL	TOP OF SLAB
HT	HEIGHT	TS	TOP OF STEP
ID	INSIDE DIAMETER	TW	TOP OF WALL
INCL	INCLUDE(D)	TYP	TYPICAL
IRR	IRRIGATION	VAR	VARIES
JT	JOINT	VERT	VERTICAL
LIN	LINEAR	VEH	VEHICLE
LF	LINEAR FEET	VOL	VOLUME
LP	LOW POINT	W/	WITH
LT	LIGHT	W/O	WITHOUT
MATL	MATERIAL	WT	WEIGHT
MAX	MAXIMUM	WWF	WELDED WIRE FABRIC
MEMB	MEMBRANE	YD	YARD
MD	MAIN DISCONNECT SWITCH	@	AT

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

design office
landscape planning urbanism

DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.ds-designoffice.com

STATE OF NEW MEXICO
7-5-2017
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
SANTA FE, NEW MEXICO 87506

DRAWN BY PS / CH

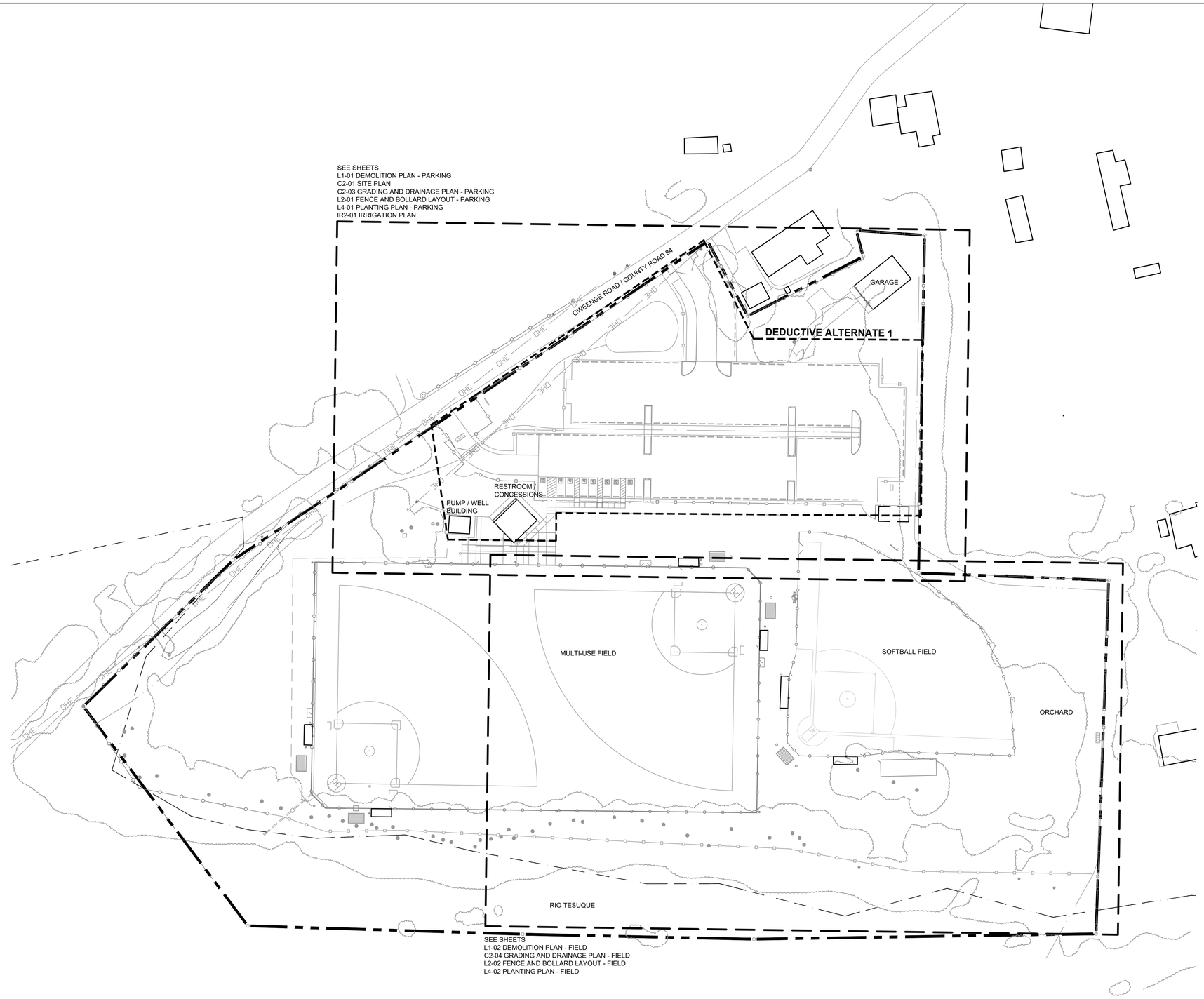
DATE February 17, 2017

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

L0-00



SCALE: 1" = 50'-0"

0' 25' 50' 100' 200'

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
SANTA FE, NEW MEXICO 87506

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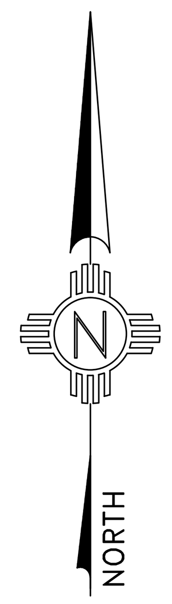
STATE OF NEW MEXICO
17 FEB 2017
C. M. Horn
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY: PS / CH

DATE: February 17, 2017

SHEET TITLE: **KEYED PLAN**

SHEET NUMBER: **L0-01**



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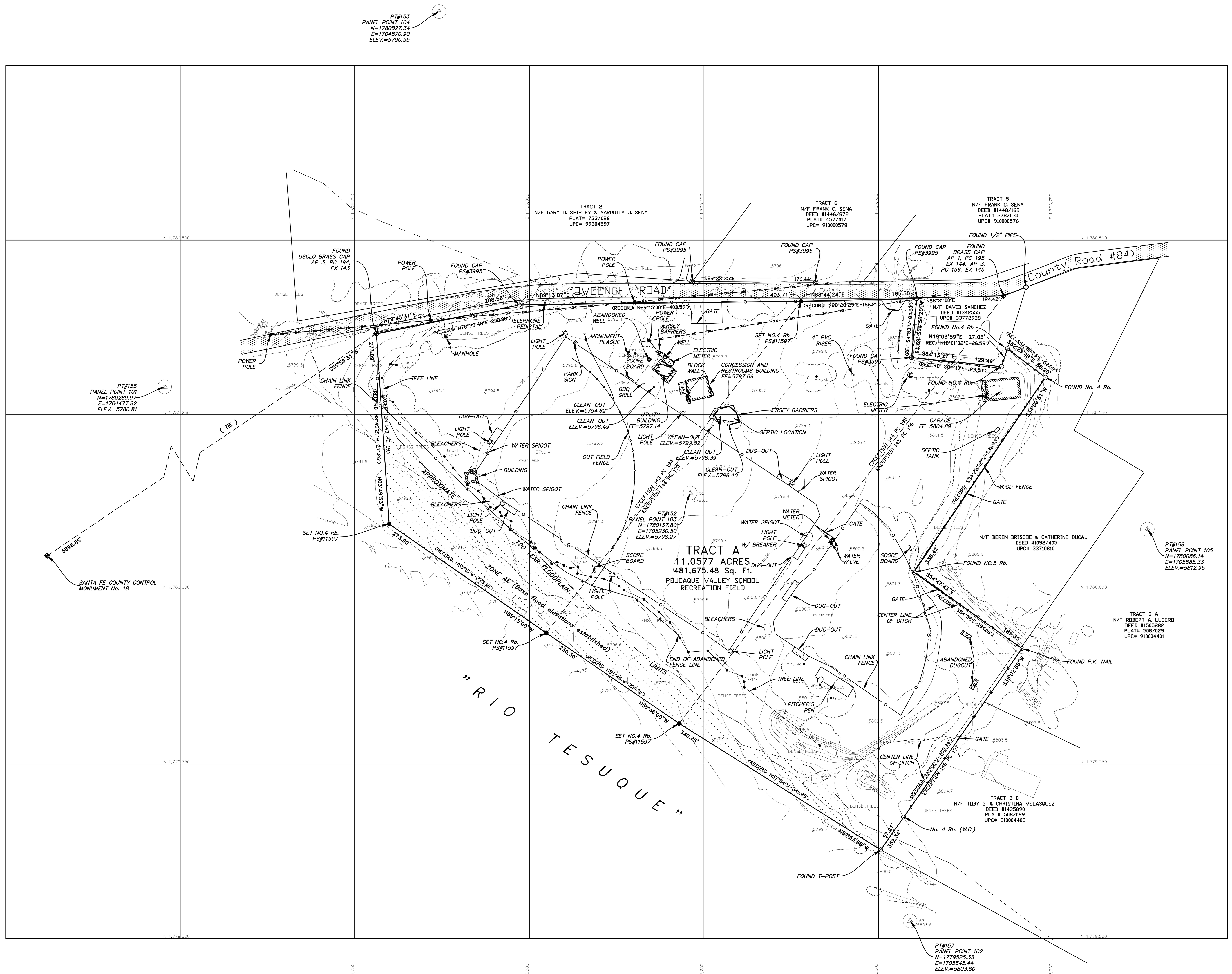
SCALE: 1" = 80'

CONTOUR INTERVAL = 1'



LEGEND:

- ○ = PROPERTY CORNERS FOUND (AS NOTED)
- ● = SET PROPERTY CORNER (Rebar #11597)
- = U.S. GENERAL LAND OFFICE SURVEY BRASS CAP
- = CHAIN LINK FENCE
- = WOOD FENCE
- = OVERHEAD UTILITY
- = ASPHALT ROAD
- = BOUNDARY LINE
- = 100 YR FLOODPLAIN (ZONE AE)
- = DENSE TREES
- = 5' INTERVAL CONTOUR LINE
- = 1' INTERVAL CONTOUR LINE
- = TREE LINE
- = CENTER LINE OF DITCH

NOTES:

AERIAL PHOTOGRAPHY & TOPOGRAPHY WAS OBTAINED BY BLUE SKIES CONSULTING, LLC.
PHOTO TAKEN 8-19-2013

SURVEYOR'S CERTIFICATE

THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1"=50' WITH A CONTOUR INTERVAL OF 1'. PREPARED FROM A FIELD SURVEY BY ME ON AUGUST 28th, 2013, AND IS TRUE AND CORRECT TO THE BEST ... BELIEF

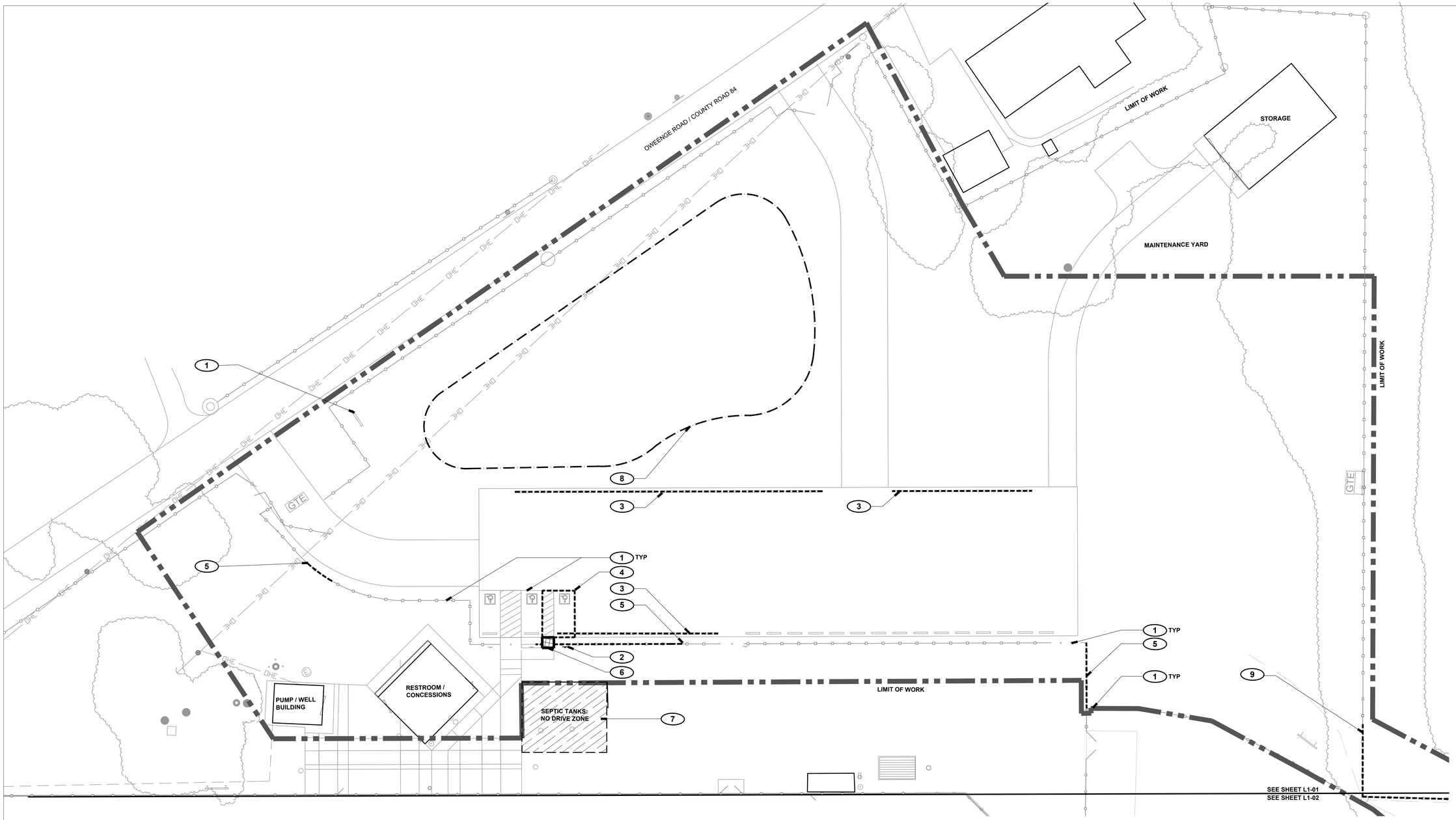
Brian K. McClintock 4/28/2014

BRIAN K. McCLINTOCK N.M.P.S. No. 11597 DATE

BRIAN K. McCLINTOCK
NEW MEXICO
11597
REGISTERED PROFESSIONAL SURVEYOR

TOPOGRAPHIC SURVEY OF POJOAQUE VALLEY SCHOOL RECREATION FIELD

BLUELINE CONSTRUCTION
(SURVEY DEPARTMENT)
20 REATA ROAD
SANTA FE NEW MEXICO
505-216-7909



DEMOLITION LEGEND

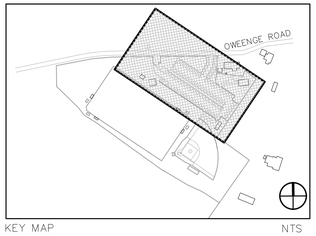
- LIMIT OF WORK
- MATCH LINE
- WOOD FENCE, EXISTING
- CHAIN LINK FENCE, EXISTING
- CONCRETE REMOVAL
- ELEMENT REMOVAL / SALVAGE
- TOPSOIL HARVESTING
- LIGHT POLE, EXISTING FIELD LIGHTING
- CLEANOUT, EXISTING

DEMOLITION KEYED NOTES

1. PRESERVE AND PROTECT EXISTING SITE ELEMENTS TO REMAIN, TYP.
2. REMOVE AND SALVAGE ACCESSIBLE PARKING SIGN AND POST; RELOCATE AS INDICATED IN CIVIL PLANS.
3. SALVAGE EXISTING PARKING BUMPERS IN LOCATIONS SHOWN; RELOCATE ON SITE; SEE CIVIL PLANS.
4. REMOVE ADA STRIPING FROM CONCRETE PAD IN LOCATION SHOWN; PRESERVE CONCRETE SLAB.
5. REMOVE AND SALVAGE EXISTING POST AND CABLE FENCE IN LOCATIONS AS SHOWN; TIE OFF REMAINING COMPLETE END SECTIONS WHERE POSSIBLE; CONFIRM REMOVAL EXTENTS IN FIELD WITH LANDSCAPE ARCHITECT; SEE DETAIL 1/L3-01.
6. SAW CUT CONCRETE SIDEWALK AT JOINT AND REMOVE TO FULL DEPTH OF CONSTRUCTION; DISPOSE OFF SITE; CONFIRM EXTENTS OF DEMOLITION PRIOR TO REMOVAL.
7. UNDERGROUND SEPTIC TANKS IN THIS AREA; CONTRACTOR TO INSTALL TEMPORARY BARRIERS AROUND THIS AREA AND KEEP OUT; BARRIERS TO BE KEPT IN PLACE FOR DURATION OF CONSTRUCTION.
8. SALVAGE TOPSOIL AND NATIVE SEED BANK TO 4"-6" DEPTH FROM THIS AREA; STORE ON SITE FOR FUTURE REDISTRIBUTION.
9. REMOVE AND SALVAGE EXISTING WOOD FENCE / RANCH GATE (APPROX. 100 LF); REMOVE INVASIVE TREES AND CLEAR AREA OF VEGETATION (APPROX. 1000 SF); CONFIRM EXTENTS IN FIELD WITH LANDSCAPE ARCHITECT; CONFIRM LOT LINE ADJUSTMENT WITH OWNER PRIOR TO DEMOLITION.

SCALE: 1" = 20'-0"

0' 10' 20' 40' 80'



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
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STATE OF NEW MEXICO
17 February 2017
C. M. Horn
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

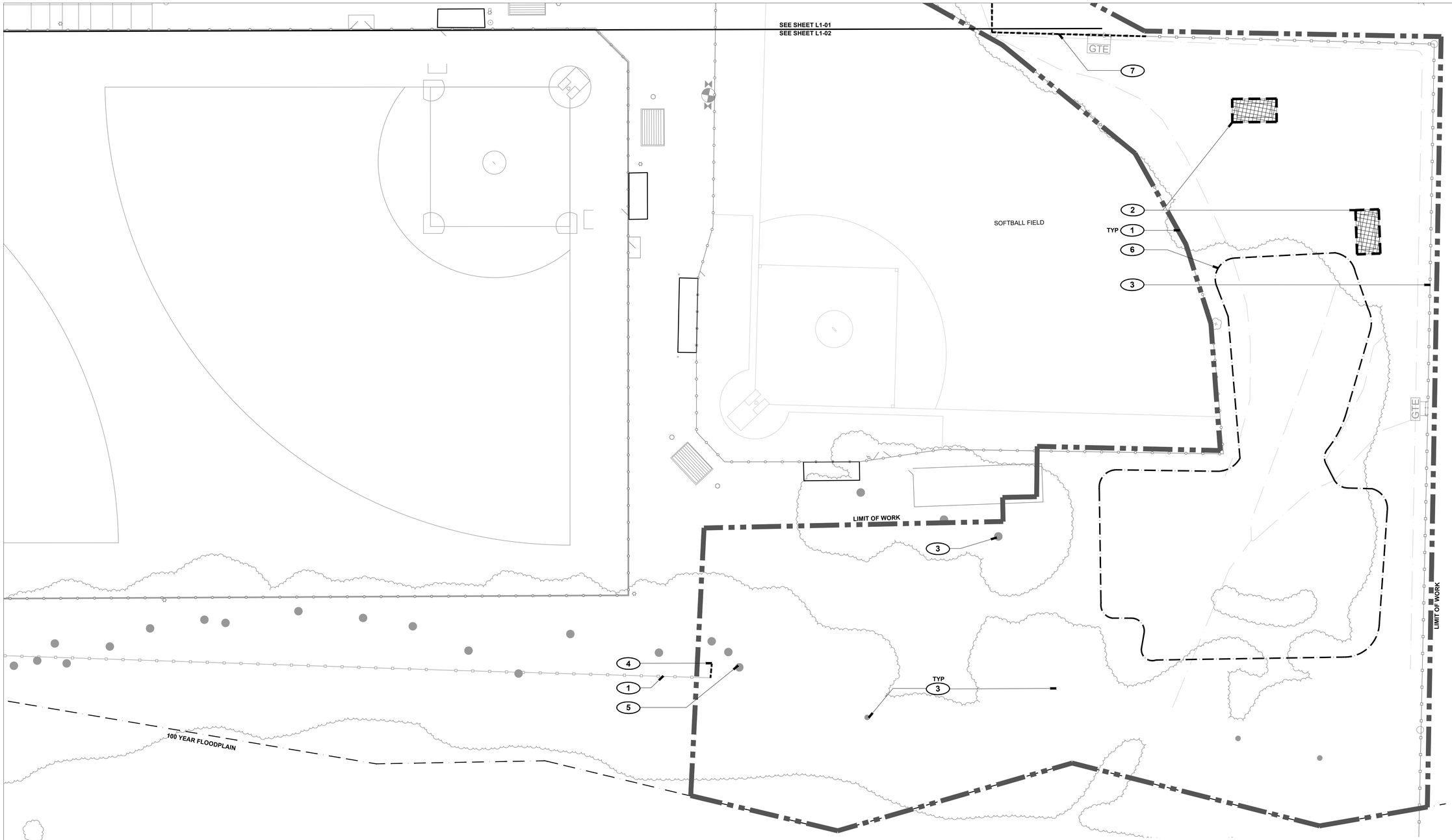
DRAWN BY	DATE
PS / CH	February 17, 2017

SHEET TITLE

DEMOLITION PLAN - PARKING

SHEET NUMBER

L1-01



DEMOLITION LEGEND

- LIMIT OF WORK
- MATCH LINE
- WOOD FENCE, EXISTING
- CHAIN LINK FENCE, EXISTING
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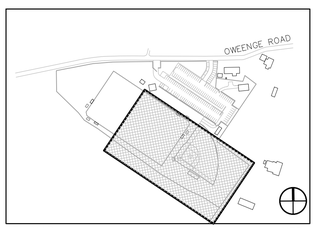
- LIGHT POLE, EXISTING FIELD LIGHTING
- CLEANOUT, EXISTING

DEMOLITION KEYED NOTES

1. PRESERVE AND PROTECT EXISTING SITE ELEMENTS TO REMAIN, TYP.
2. REMOVE EXISTING STRUCTURE TO FULL DEPTH OF CONSTRUCTION; DISPOSE OF OFF SITE.
3. PRESERVE AND PROTECT EXISTING MATURE COTTONWOOD TREES IN CONSTRUCTION AREA; CONFIRM TREES TO BE PRESERVED IN FIELD WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
4. REMOVE AND SALVAGE EXISTING POST AND CABLE FENCE IN LOCATIONS AS SHOWN; TIE OFF REMAINING COMPLETE END SECTIONS WHERE POSSIBLE; CONFIRM REMOVAL EXTENT IN FIELD WITH LANDSCAPE ARCHITECT; SEE DETAIL 1/L3-01;
5. LIMB BRANCHES OF EXISTING COTTONWOOD TREE TO 10 FT CLEAR ABOVE TRAIL; CONFIRM EXTENTS OF TRIMMING IN FIELD WITH LANDSCAPE ARCHITECT.
6. SALVAGE TOPSOIL AND NATIVE SEED BANK TO 4"-6" DEPTH; STORE ON SITE FOR FUTURE REDISTRIBUTION; CONFIRM LIMITS IN FIELD WITH LANDSCAPE ARCHITECT.
7. SEE NOTE 9/L1-01.

SCALE: 1" = 20'-0"

0' 10' 20' 40' 80'



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
SANTA FE, NEW MEXICO 87506

design office
landscape planning urbanism

DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

STATE OF NEW MEXICO
17 FEBRUARY 2017
C. M. Horn
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY PS / CH

DATE February 17, 2017

SHEET TITLE

DEMOLITION PLAN - FIELD

SHEET NUMBER

L1-02

GENERAL NOTES:

1. ALL CIVIL ENGINEERING SITE WORK IMPROVEMENTS, UNLESS OTHERWISE MODIFIED IN THE PROJECT SPECIFICATIONS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO APWA STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION, EXCEPT WHERE OTHERWISE NOTED IN THE DRAWINGS.

2. STANDARD DRAWINGS: REFER TO STANDARD DRAWINGS FOR THE NEW MEXICO APWA STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION UNLESS OTHERWISE NOTED.

3. THE CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF PROJECT CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

4. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE OWNER, ENGINEER AND ALL APPROVAL SIGNATORIES. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION METHODS OR TECHNIQUES OR FOR THE PROSECUTION OF THE WORK AS SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS.

5. UNLESS OTHERWISE PROVIDED AS PART OF THE CONSTRUCTION PLANS, A COMPLETE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY THE CONTRACTOR WHEN ANY PORTION OF THE WORK IS IN THE PUBLIC RIGHT-OF-WAY OR AFFECTING ON-SITE VEHICLE OR PEDESTRIAN CIRCULATION. ALL CONSTRUCTION SIGNING, BARRICADING AND CHANNELIZATION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION. THE PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL FOR ON-SITE CONSTRUCTION. TRAFFIC CONTROL WITHIN THE CITY/COUNTY RIGHT-OF-WAY SHALL DEFAULT TO THE CITY/COUNTY TRAFFIC DEPARTMENT FOR APPROVAL. THE CONTRACTOR SHALL NOT IMPLEMENT THE TRAFFIC CONTROL PLAN UNTIL APPROVAL OF THE PLAN HAS BEEN RECEIVED FROM THE AUTHORITY.

6. THE CONTRACTOR SHALL DESIGNATE AT LEAST ONE EMERGENCY CONTACT PERSON, AND SHALL PROVIDE TELEPHONE NUMBERS WHERE THIS PERSON CAN BE CONTACTED AT ANY TIME, INCLUDING WEEKENDS, HOLIDAYS AND AFTER HOURS. THIS INFORMATION SHALL BE PROVIDED TO THE OWNER AND THE ENGINEER.

7. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS FROM ALL JURISDICTIONAL AUTHORITIES PRIOR TO START OF CONSTRUCTION. PERMITS ARE INCIDENTAL TO BASE BID.

8. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION.

9. EXISTING SITE IMPROVEMENTS WHICH ARE DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE. REPAIRS SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION OF THE REPAIRS. REPAIRS SHALL BE ACCEPTED BY THE OWNER PRIOR TO FINAL PAYMENT.

10. THE CONTRACTOR SHALL USE THE DESIGNATED STAGING AREAS FOR STORAGE OF EQUIPMENT AND MATERIAL. NO MATERIAL OR EQUIPMENT MAY BE STORED OR LEFT ON-SITE AT ANY OTHER LOCATION. THE OWNER ASSUMES NO LIABILITY FOR CONTRACTOR'S EQUIPMENT AND MATERIAL IN THE STAGING AREA. SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IF NO STAGING AREA IS DESIGNATED ON THESE PLANS, AN OFF-SITE STAGING AREA SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE, OR THE CONTRACTOR MAY NEGOTIATE WITH THE OWNER TO USE AN ON-SITE AREA.

11. ALL STATIONING REFERS TO THE CENTERLINE OF THE RIGHT-OF-WAY UNLESS OTHERWISE NOTED. STATIONING OF CHANNELS OR PIPES IN DRAINAGE EASEMENTS REFERS TO THE CENTERLINE OF CHANNEL OR PIPE, UNLESS OTHERWISE NOTED.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING, IN ADVANCE OF HIS/HER CONSTRUCTION OPERATIONS, IF OVERHEAD UTILITY LINES, SUPPORT STRUCTURES, POLES, GUYS, ETC. ARE AN OBSTRUCTION TO CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION IS EVIDENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE, SUPPORT AND RECONNECT THE UTILITY TO ACCOMMODATE NEW CONSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. NON-DESTRUCTIVE UTILITY EXPLORATION-TYPICAL TASKS BY THE CONTRACTOR LEADING TO UTILITY EXPLORATION ARE: A) SELECT AN APPROPRIATE METHOD OF GATHERING DATA THAT WILL ACHIEVE THE ACCURACIES AND PRECISION REQUIRED TO IDENTIFY THE EXACT X, Y AND Z LOCATION OF CONFLICT. VERTICAL AND HORIZONTAL SURVEY MAPPING ACCURACY SHALL ADHERE TO THE DESIGN SURVEY CONTROL.

B) WHEN EXCAVATING TEST HOLES EXPOSING THE UTILITY TO BE MEASURED, IT SHALL BE EXECUTED IN SUCH A MANNER THAT IT PROTECTS THE INTEGRITY OF THE UTILITY TO BE MEASURED. EXPOSURE IS TYPICALLY PERFORMED VIA MINIMALLY INTRUSIVE EXCAVATION.

C) NON-DESTRUCTIVE UTILITY EXPLORATION SHALL BE DONE A MINIMUM OF ONE WEEK IN ADVANCE OF PROJECT SCHEDULE DELAY.

D) COMPLY WITH APPLICABLE UTILITY DAMAGE PREVENTION LAWS, PERMITS, AND SPECIFICATIONS, AND COORDINATE WITH UTILITY AND OTHER INSPECTORS, AS REQUIRED.

E) DETERMINE (a) THE HORIZONTAL AND VERTICAL LOCATION OF THE TOP AND/OR BOTTOM OF THE UTILITY REFERENCED TO THE PROJECT SURVEY DATUM; (b) THE ELEVATION OF THE EXISTING GRADE OVER THE UTILITY AT A TEST HOLE REFERENCED TO THE PROJECT SURVEY DATUM; (c) THE OUTSIDE DIAMETER OF THE UTILITY AND CONFIGURATION OF NON-ENCASED, MULTI-CONDUIT SYSTEMS; (d) THE UTILITY STRUCTURE MATERIAL COMPOSITION, WHEN REASONABLY ASCERTAINABLE; (e) THE BENCHMARKS AND /OR PROJECT SURVEY DATA USED TO DETERMINE ELEVATIONS; (f) THE PAVING THICKNESS AND TYPE, WHERE APPLICABLE; (g) THE GENERAL SOIL TYPE AND SITE CONDITIONS; AND (h) SUCH OTHER PERTINENT INFORMATION AS IS REASONABLY ASCERTAINABLE FROM EACH TEST HOLE SITE.

14. AS-BUILTS: CONTRACTOR SHALL DELIVER FINAL CERTIFIED AS-BUILTS IN HARD COPY AND ACAD R2005 OR BETTER. AS-BUILTS SHALL BE SUBMITTED WITH SUBSTANTIAL COMPLETION PAY APPLICATION. NO PAYMENT WILL BE MADE WITHOUT AS-BUILT SUBMITTAL.

15. SCHEDULE: THE CONTRACTOR SHALL PREPARE AND SUBMIT A CRITICAL PATH METHOD (CPM) SCHEDULE PRIOR TO COMMENCEMENT OF PROJECT CONSTRUCTION. THE CPM SCHEDULE SHALL CLEARLY IDENTIFY A WORK BREAKDOWN STRUCTURE THAT DETERMINES THE TOTAL PROJECT DURATION. EARLY ACTIVITY START AND FINISH, LATE ACTIVITY START AND FINISH, EARLY AND LATE EVENT OCCURRENCE TIME, SHALL ALL BE IDENTIFIED IN THE CPM SCHEDULE. CPM SCHEDULE SHALL BE UPDATED WEEKLY AND DISTRIBUTED IN HARD COPY TO OWNER AND PROJECT ENGINEER. OWNER RETAINS OWNERSHIP OF TOTAL FLOAT AND FREE FLOAT WHEN NOT USED BY CONTRACTOR AND NO ADDITIONAL PAYMENTS WILL BE MADE. CPM SCHEDULE DEVELOPMENT AND MAINTENANCE SHALL ADD A SEPERATE LINE ITEM IN THE FINAL ENGINEER APPROVED SCHEDULE OF VALUES.

EROSION CONTROL/ENVIRONMENTAL PROTECTION/STORM WATER POLLUTION PREVENTION PLAN:

1. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST AND EROSION CONTROL REGULATIONS. THE CONTRACTOR SHALL PREPARE AND OBTAIN ANY NECESSARY DUST OR EROSION CONTROL PERMITS FROM REGULATORY AGENCIES.

2. THE CONTRACTOR SHALL PROMPTLY REMOVE ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY TO KEEP IT FROM WASHING OFF THE PROJECT SITE.

3. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO OTHER PROPERTY BY CONSTRUCTING TEMPORARY EROSION CONTROL BERMS OR INSTALLING SILT FENCES AT THE PROPERTY LINES AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLAN.

4. THE CONTRACTOR SHALL MITIGATE EROSION OF TEMPORARY OR PERMANENT DIRT SWALES BY INSTALLING CHECK DAMS IN THE SWALES PERPENDICULAR TO THE DIRECTION OF FLOW, AND AT INTERVALS SPECIFIED ON THE STORM WATER POLLUTION PREVENTION PLAN.

5. THE CONTRACTOR SHALL WET THE SOIL AS NEEDED TO KEEP IT FROM BLOWING, WATERING, AS REQUIRED FOR CONSTRUCTION AND DUST CONTROL, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO MEASUREMENT OR PAYMENT SHALL BE MADE THEREFOR. CONSTRUCTION AREAS SHALL BE WATERED FOR DUST CONTROL IN COMPLIANCE WITH GOVERNMENT ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SUPPLYING WATER AS REQUIRED.

6. ALL WASTE PRODUCTS FROM THE CONSTRUCTION SITE, INCLUDING ITEMS DESIGNATED FOR REMOVAL, CONSTRUCTION WASTE, CONSTRUCTION EQUIPMENT WASTE PRODUCTS (OIL, GAS, TIRES, ETC.) GARBAGE, GRUBBING, EXCESS CUT MATERIAL, VEGETATIVE DEBRIS, ETC. SHALL BE APPROPRIATELY DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMITS REQUIRED FOR HAUL OR DISPOSAL OF WASTE PRODUCTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE WASTE DISPOSAL SITE COMPLIES WITH GOVERNMENT REGULATIONS REGARDING THE ENVIRONMENT, ENDANGERED SPECIES AND ARCHAEOLOGICAL RESOURCES.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP AND REPORTING OF SPILLS OF HAZARDOUS MATERIALS ASSOCIATED WITH THE CONSTRUCTION SITE. HAZARDOUS MATERIALS INCLUDE GASOLINE, DIESEL FUEL, MOTOR OIL, SOLVENTS, CHEMICALS, PAINTS, ETC. WHICH MAY BE A THREAT TO THE ENVIRONMENT. THE CONTRACTOR SHALL REPORT THE DISCOVERY OF PAST OR PRESENT SPILLS TO THE NEW MEXICO ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE AT 1-(505)-827-9329.

8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS CONCERNING SURFACE AND UNDERGROUND WATER. CONTACT WITH SURFACE WATER BY CONSTRUCTION EQUIPMENT AND PERSONNEL SHALL BE MINIMIZED. EQUIPMENT MAINTENANCE AND REFUELING OPERATIONS SHALL BE PERFORMED IN AN ENVIRONMENTALLY SAFE MANNER IN COMPLIANCE WITH GOVERNMENT REGULATIONS.

9. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS CONCERNING CONSTRUCTION NOISE AND HOURS OF OPERATION.

10. WHERE STORM INLETS ARE SUSCEPTIBLE TO IN FLOW OF SILT OR DEBRIS FROM CONSTRUCTION ACTIVITIES, PROTECTION SHALL BE INSTALLED ON THEIR UPSTREAM SIDE.

11. THE CONTRACTOR SHALL PREPARE AND MAINTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON-SITE AT ALL TIMES, AND SHALL COMPLY WITH THE REQUIREMENTS INDICATED ON THAT PLAN.

ROADS:

1. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO SURFACING OF THE STREETS. ALL WATER VALVE BOXES AND ELECTRICAL, TELEPHONE, TELEVISION AND SEWER MANHOLES IN THE CONSTRUCTION AREA SHALL BE ADJUSTED TO FINISH GRADE.

2. ALL PERMANENT SIGNS, BARRICADES, CHANNELIZATION DEVICES, PAVEMENT MARKINGS, SIGN FRAMES AND ERECTION OF SUCH DEVICES SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST EDITION.

3. ALL STREET STRIPING ALTERED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR TO MATCH THE ORIGINAL CONDITIONS (I.E. TYPE, SPACING) AT THE LOCATION PRIOR TO CONSTRUCTION, OR AS SHOWN IN THIS PLAN SET.

4. STREET GRADES SHALL BE RESTORED BY THE CONTRACTOR TO THE EXISTING GRADES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SMOOTH TRANSITIONS SHALL BE MADE BETWEEN EXISTING PAVEMENT WHICH REMAINS IN PLACE AND PAVEMENT WHICH IS REPLACED. WHEN ABUTTING NEW PAVEMENT TO EXISTING, SAWCUT BACK EXISTING PAVEMENT TO A NEAT, STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT.

5. A STREET CUT PERMIT MUST BE ACQUIRED FROM CITY OR COUNTY.

6. ALL WORK IN PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BY A LICENSED CONTRACTOR AND REQUIRES PERMIT AND APPROVAL BY CITY OR COUNTY.

UTILITIES-GENERAL NOTE:

1. IF ANY UTILITY LINES, PIPELINES OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS. THEY ARE SHOWN IN AN APPROXIMATE LOCATION ONLY, AND LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE UTILITY OWNER OR FROM EXISTING PLANS, AND THIS INFORMATION MAY BE INCOMPLETE, OR OBSOLETE AT THE TIME OF CONSTRUCTION. THE ENGINEER HAS NOT UNDERTAKEN ANY FIELD VERIFICATION OF THESE LOCATIONS, LINE SIZES OR MATERIAL TYPE, MAKES NO REPRESENTATION THERETO, AND ASSUMES NO RESPONSIBILITY ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE OR UNDERGROUND INSTALLATION IN OR NEAR THE AREA IN ADVANCE OF ANY DURING ANY EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES AND UNDERGROUND FACILITIES. IN PLANNING AND CONDUCTING EXCAVATIONS. THE CONTRACTOR SHALL COMPLY WITH ALL STATE STATUES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

2. THE CONTRACTOR SHALL NOTIFY NEW MEXICO ONE CALL AT (505) 260-1990 AT LEAST THREE WORKING DAYS PRIOR TO STARTING WORK ON THIS PROJECT.

CONSTRUCTION STAKES, LINES AND GRADES

DUE TO THE PREVIOUS CONSTRUCTION DONE IN PHASE 1 AREAS OF DISTURBANCE HAVE OCCURRED AND ARE NOT SHOWN WITHIN THE EXISTING SURVEY. BECAUSE OF THIS THE FOLLOWING PROCEDURE SHALL GOVERN THE PAYMENT OF UNCLASSIFIED EXCAVATION AND BORROW BID ITEMS.

LOCAL SURVEY CONTROL WILL BE SET FOR VERTICAL AND HORIZONTAL CONTROL THROUGHOUT THE CONSTRUCTION AREA. THESE STAKES AND MARKS SHALL CONSTITUTE THE FIELD CONTROL BY AND IN ACCORDANCE WITH WHICH THE CONTRACTOR SHALL ESTABLISH OTHER NECESSARY CONTROLS AND PERFORM THE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OTHER CONTROL, SLOPE STAKES, CUT STAKES, OFFSET STAKES, BENCH MARKS, BLUE TOPS OR OTHER STAKING NECESSARY FOR PROPER EXECUTION OF THE WORK, OR AS REQUESTED BY THE PROJECT MANAGER, TO ASSURE COMPLIANCE WITH THE PLANS. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECTION 801, CONSTRUCTION STAKING BY THE CONTRACTOR, IN THE NMDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION.

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PRESERVATION OF ALL STAKES AND MARKS, AND, IF ANY OF THE CONSTRUCTION STAKES OR MARKS HAVE BEEN CARELESSLY OR WILLFULLY DESTROYED OR DISTURBED BY THE CONTRACTOR OR OTHERS, THE COST OF REPLACING THEM WILL BE CHARGED AGAINST THE CONTRACTOR OR WILL BE DEDUCTED FROM THE PAYMENT FOR THE WORK.

THE CONTRACTOR SHALL OBTAIN AND PAY FOR THE SERVICES OF A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF NEW MEXICO TO PERFORM SURVEYS OF EARTHWORK QUANTITIES, DURING AND AT THE COMPLETION OF THE PROJECT CONSTRUCTION. THESE SURVEYS SHALL CONSIST OF THE FOLLOWING PHASES:

PHASE 1 A CROSS SECTION SURVEY, WITH NO GREATER THAN 50-FOOT SPACING, TO DETERMINE THE LOCATION OF EXISTING GROUND PRIOR TO CONSTRUCTION AFTER CLEARING AND GRUBBING AND AFTER REMOVAL AND STOCKPILING OF THE TRASH AND DEBRIS. CROSS SECTION DATA COLLECTED SHALL BE OF SUFFICIENT SPACING, INCLUDING ALL BREAKS IN THE TERRAIN, TO BE ABLE TO CREATE AN ORIGINAL GROUND DIGITAL TERRAIN MODEL (DTM). THE "ORIGINAL GROUND" DTM SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND ACCEPTANCE PRIOR TO PROCEEDING WITH EXCAVATION, EMBANKMENT OR EXPORT OF EXCESS MATERIAL. CROSS SECTION DATA MUST BE SUFFICIENT TO DETERMINE EARTHWORK QUANTITIES.

PHASE 2 CROSS SECTION AND LOCATION SURVEYS THAT MAY BE MADE DURING THE EXCAVATION AND BACKFILL CONSTRUCTION FOR THE PURPOSES OF VERIFYING THE CONTRACTOR'S WORK. WHERE SHOWN, THE EXCAVATION DIMENSIONS (PAY LIMITS FOR UNCLASSIFIED EXCAVATION, BACKFILL AND SUB-EXCAVATION) SHOWN ON THE PLANS SHALL BE USED TO DETERMINE THE EXCAVATION CROSS SECTION FOR PAYMENT TO THE CONTRACTOR. THE CROSS SECTION DATA MUST BE SUFFICIENT TO VERIFY THE LIMITS OF EXCAVATION.

PHASE 3 A CROSS SECTION SURVEY, AT THE SAME LOCATIONS AS THE CROSS SECTIONS IN PHASE 1 TO DETERMINE THE LOCATION OF THE FINISH GRADE AT THE COMPLETION OF CONSTRUCTION.

ALL SURVEYS MUST BE CERTIFIED BY THE PROFESSIONAL SURVEYOR AND INCLUDE COMPLETE DOCUMENTATION. CROSS SECTIONS OF THE PHASE 1, 2 AND 3 SURVEYS AND THE PAY LIMIT FOR UNCLASSIFIED EXCAVATION AS SHOWN ON THE PLANS MUST BE USED BY THE PROFESSIONAL SURVEYOR TO COMPUTE THE QUANTITY OF EXCAVATION, SUBJECT TO THE PROVISIONS FOR MEASUREMENT IN SECTION 203 OF THE NMDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION AS AMENDED BY THE SUPPLEMENTAL TECHNICAL SPECIFICATIONS. VOLUME SHALL BE BASED ON THE "AVERAGE END AREA" COMPUTATION. ALL COMPUTATIONS OF EXCAVATION AND BACKFILL MUST BE SUBMITTED TO THE PROJECT MANAGER IN SUFFICIENT DETAIL. THIS SUBMITTAL SHALL BE SUCH THAT METHODS AND COMPUTATIONS CAN BE FULLY VERIFIED AND ARE SUBJECT TO APPROVAL BY THE PROJECT MANAGER.

PHASE 4 THE PHASE 4 SURVEY WILL BE COMPLETED DURING CONSTRUCTION TO DEMONSTRATE COMPLIANCE WITH THE DESIGN GRADES SHOWN ON THE PLAN SET. PHASE 4 SURVEY WILL ALSO INCLUDE THE UPDATE AND COMPLETION OF AS-BUILTS FOR THE PROJECT AND THE SUBMITTAL ON A WEEKLY BASIS OF AS-BUILTS ON A PRINTED SET OF THE CONSTRUCTION DRAWINGS, TO THE SATISFACTION OF THE PROJECT MANAGER.

AT THE END OF THE PROJECT, THE PROJECT MANAGER WILL TRANSCRIBE THE AS-BUILT INFORMATION ONTO THE RECORD DRAWINGS. THE CONTRACTOR'S PROFESSIONAL SURVEYOR WILL BE REQUIRED TO STAMP, SIGN AND CERTIFY THE INFORMATION SHOWN ON THE RECORD DRAWINGS.

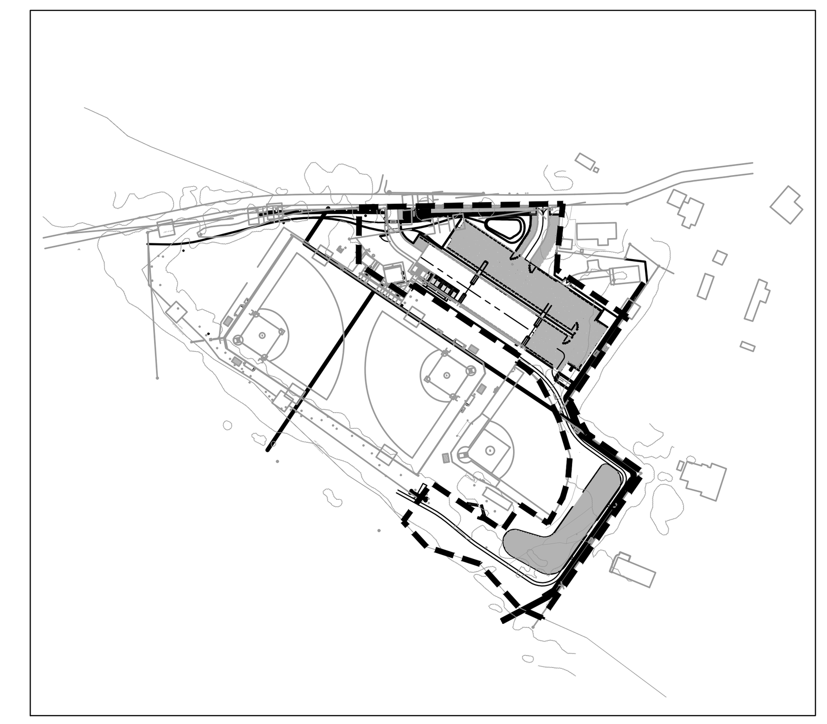
LEGEND

EXISTING

- PROPERTY CORNERS FOUND
- SET PROPERTY CORNER
- US GENERAL LAND OFFICE SURVEY BRASS CAP
- CHAIN LINK FENCE
- WOOD FENCE
- OHE — OVERHEAD UTILITY
- BOUNDARY LINE
- DENSE TREES
- 5797 — EXISTING INDEX CONTOUR
- 5798 — EXISTING INTERMEDIATE CONTOUR

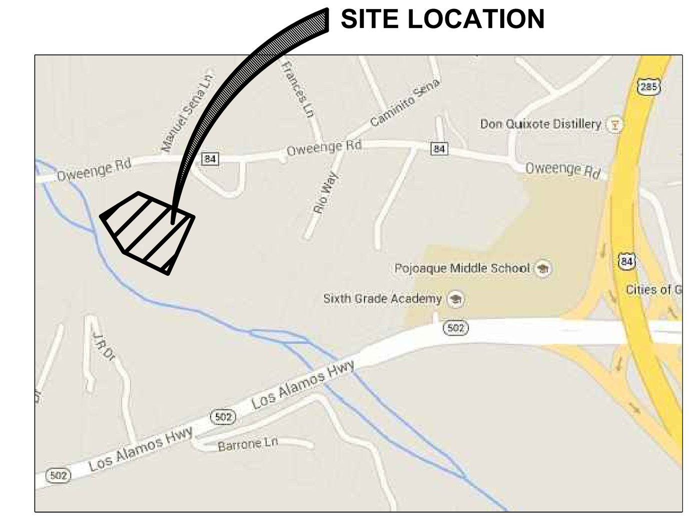
PROPOSED

- 5797 — PROPOSED INDEX CONTOUR
- 5798 — PROPOSED INTERMEDIATE CONTOUR



Know what's below. Call before you dig.

SITE LOCATION



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGEE ROAD)
SANTA FE, NEW MEXICO 87506

WILSON & COMPANY
WILSON & COMPANY
4900 Lang Ave. NE,
Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

TYLER J. ASHTON
NEW MEXICO
16203
PROFESSIONAL ENGINEER
2/15/17

DRAWN BY JEM / TJI

DATE February 17, 2017

SHEET TITLE

GENERAL CIVIL NOTES

SHEET NUMBER

C1-01

1 SITE PLAN
1" = 20'

GENERAL SHEET NOTES

1. FOR FENCING, BOLLARDS AND CRUSHER FINES, SEE LANDSCAPING PLANS.

KEYNOTES

1. CONSTRUCT 22LF OF 6'-0" W VALLEY GUTTER. SEE DETAIL 8/C4-02.
   5'-0" TRANSITION BEFORE AND AFTER VALLEY GUTTER. TRANSITION EARTHEN SWALE FLOWLINE FROM 6" TO 3".
2. CONSTRUCT EARTHEN SWALE. SEE DETAIL 6/C4-02.
3. INSTALL CONCRETE WHEEL STOPS. SEE DETAIL 4/C4-02.
4. CONSTRUCT 6" BASE COURSE. SEE DETAIL 1/C4-02.
5. CONSTRUCT 6" REINFORCED CONCRETE (ADA PARKING STALLS). SEE DETAIL 7/C4-02.
6. CONSTRUCT 4" CONCRETE SIDEWALK. SEE DETAIL 5/C4-02.
7. INSTALL IRRIGATION SLEEVES. REFER TO IRRIGATION PLANS.
8. CONSTRUCT 6" HEADER CURB. SEE DETAIL 9/C4-02.
9. CONSTRUCT 12" CURB. SEE DETAIL 10/C4-02.
10. CONSTRUCT 24" WIDE CURB CUT. SEE DETAIL 11/C4-02.
11. CONSTRUCT 9'-6" WIDE CURB CUT. SEE DETAIL 11/C4-02.
12. SEE LANDSCAPING PLANS FOR TREATMENT.

LEGEND

- NUMBER OF PARKING SPACES
- PROPOSED CONCRETE
- PROPOSED 6" BASE COURSE

SITE LOCATION

KEY MAP NTS

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POJOAQUE VALLEY RECREATION COMPLEX - PH 2

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design office
landscape planning urbanism
DESIGN OFFICE
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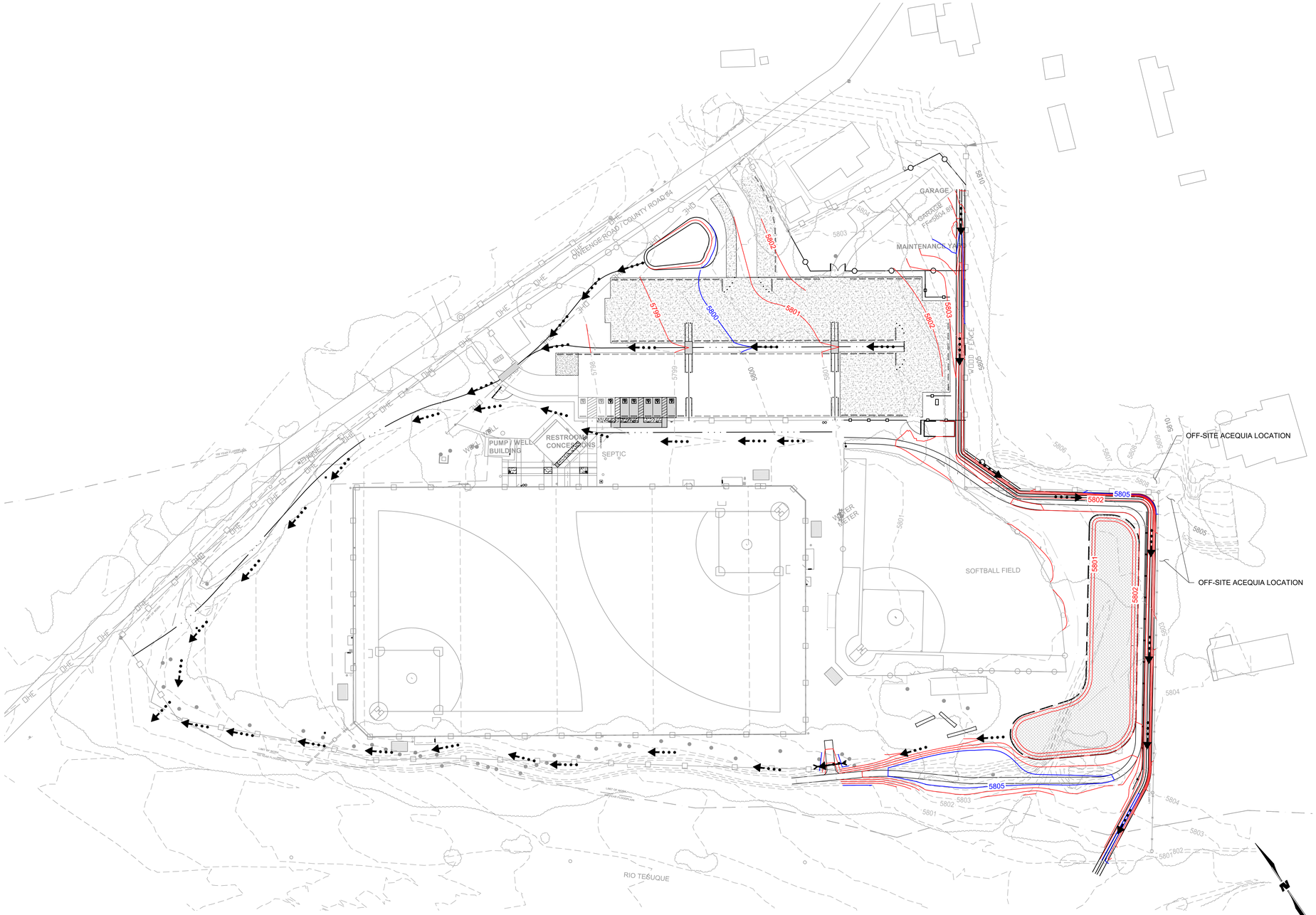
Santa Fe, NM 87505
t 505.983.1415
www.dc-designoffice.com

DRAWN BY □EM / T□I
DATE February 17, 2017
SHEET TITLE
SITE PLAN
SHEET NUMBER
C2-01

Prior to grading and after clearing and grubbing the berm and swales on the project the contractor shall stake the alignment of the berm and swales. Once the alignments are staked the contractor shall schedule a field review meeting with the project team to review all grades and locations of swales and berms. At that time revisions may be made to locations and grades of berms and swales based on existing site conditions.

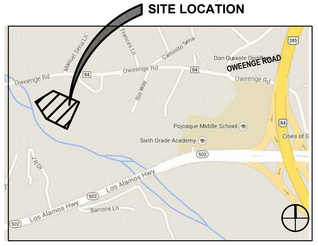


1 OVERALL GRADING DRAINAGE PLAN

1" = 30'

0 15' 30'

SITE LOCATION



KEY MAP NTS

REVISIONS

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Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

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1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

TYLER J. ASHTON NEW MEXICO

2/17/17

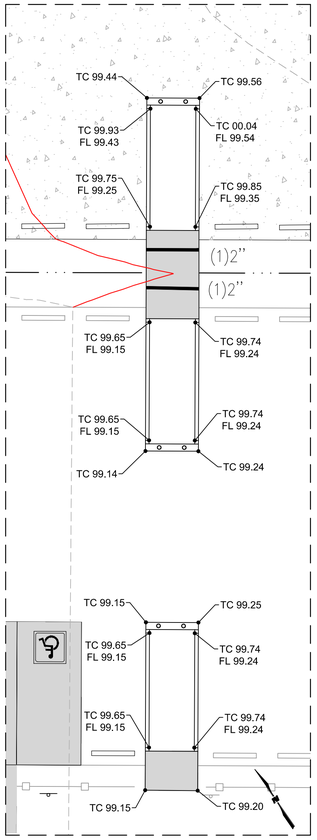
DRAWN BY	DATE
EM / TJ	February 17, 2017

SHEET TITLE

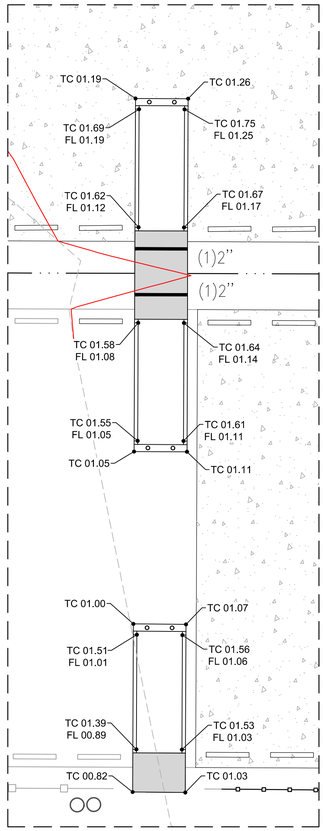
OVERALL GRADING & DRAINAGE PLAN

SHEET NUMBER

C2-02



2 INSET A
1" = 10'



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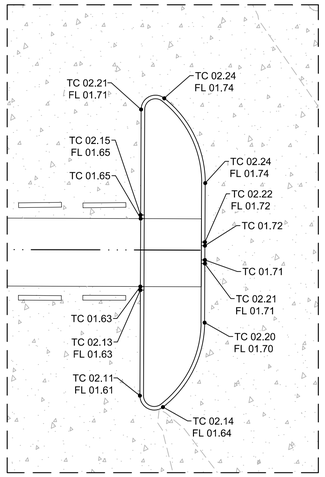

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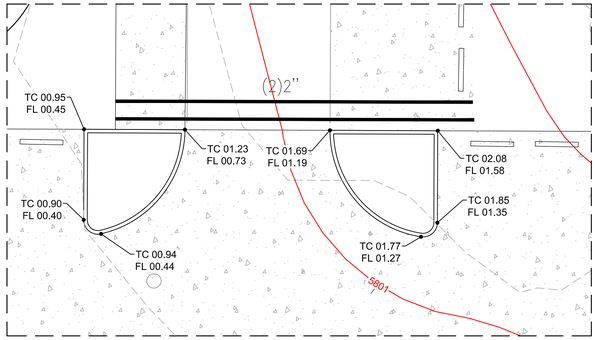
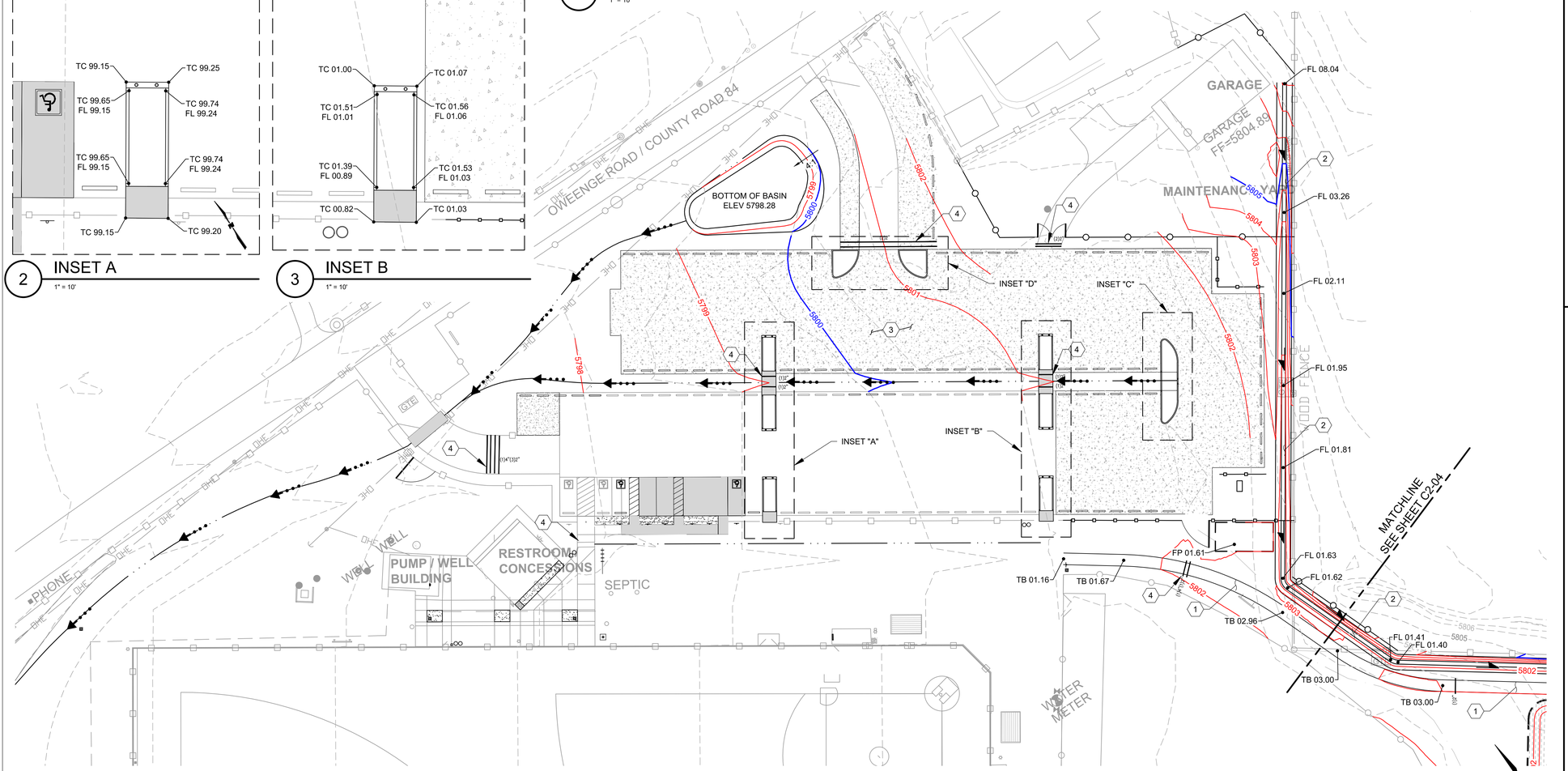


5 INSET D
1" = 10'



1 GRADING DRAINAGE PLAN
1" = 30'

GENERAL SHEET NOTES

1 SEE DESIGN OFFICE PLANS FOR DEMOLITION LIMITS.

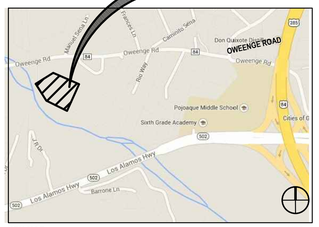
KEYNOTES

1. CONSTRUCT 6' WIDE BERM / TRAIL. SEE DETAIL 2/C4-01.
2. CONSTRUCT CHANNEL. SEE DETAIL 2/C4-01.
3. GRADE PARKING AREA.
4. INSTALL IRRIGATION SLEEVE(S). SEE IRRIATION PLANS.

LEGEND

	FLOW DIRECTION
	PROPOSED SWALE
FG	FINISHED GRADE ELEVATION
FL	FLOWLINE ELEVATION
FP	FINISHED PAD ELEVATION
TB	TOP OF BERM / TRAIL ELEVATION
TC	TOP OF CURB / CONCRETE ELEVATION

SITE LOCATION



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGEE ROAD)
SANTA FE, NEW MEXICO 87506

WILSON & COMPANY
WILSON & COMPANY
4900 Lang Ave. NE
Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
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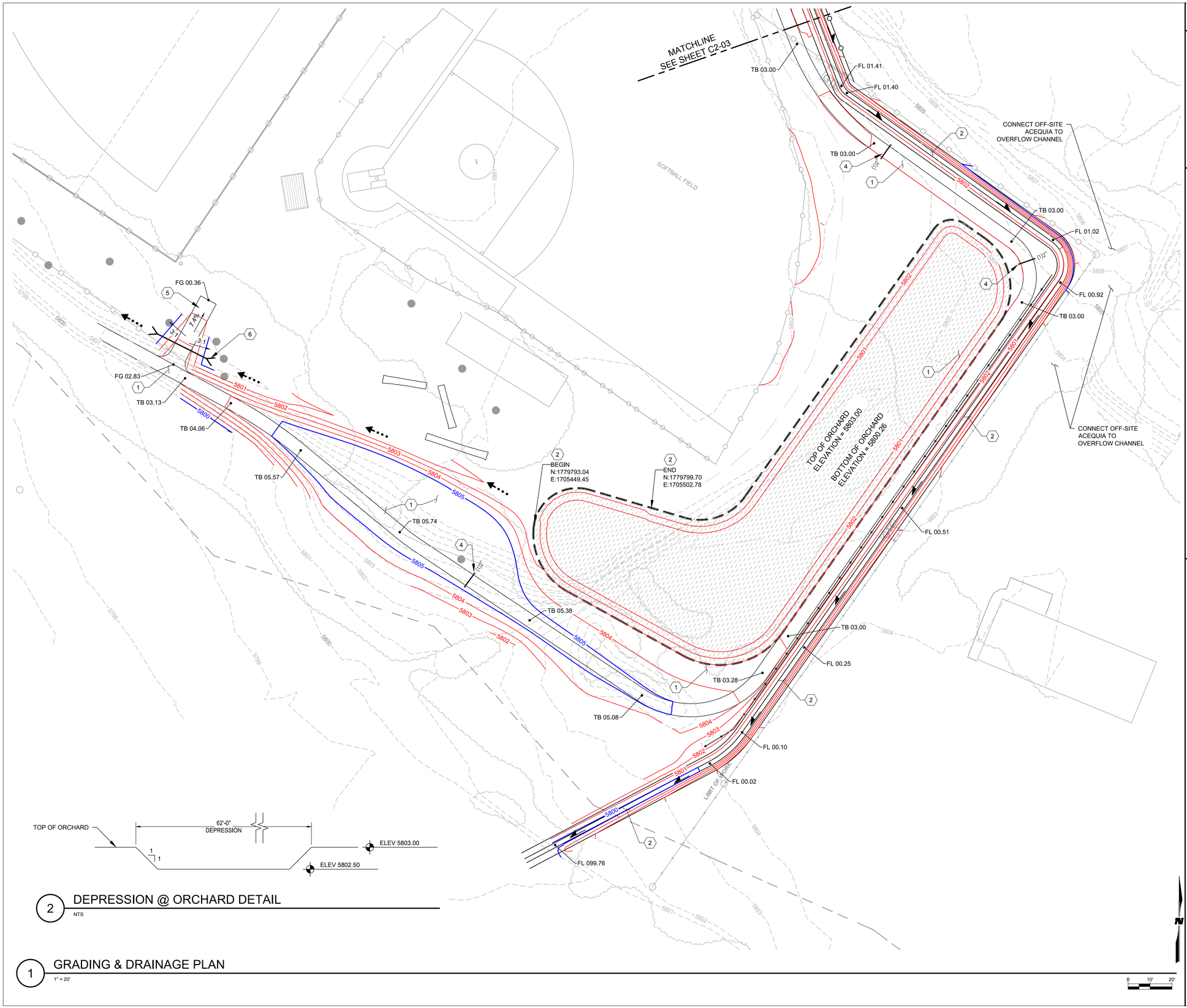
DATE February 17, 2017

SHEET TITLE
GRADING & DRAINAGE PLAN

SHEET NUMBER
C2-03



2 DEPRESSION @ ORCHARD DETAIL
NTS

1 GRADING & DRAINAGE PLAN
1" = 20'

GENERAL SHEET NOTES

1 SEE DESIGN OFFICE PLANS FOR DEMOLITION LIMITS.

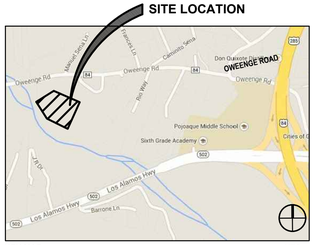
KEYNOTES

1. CONSTRUCT 6' WIDE BERM / TRAIL. SEE DETAIL 2/C4-01.
2. CONSTRUCT CHANNEL. SEE DETAIL 2/C4-01.
3. CONSTRUCT 6" DEPRESSION @ TOP OF ORCHARD FROM ELEV 5803.00 TO ELEV 5802.50, APPROX 62 LF. SEE DETAIL THIS SHEET.
4. INSTALL IRRIGATION SLEEVE(S). SEE IRRIGATION PLANS.
5. CONSTRUCT 8' WIDE ACCESS RAMP w/ 3: SIDE SLOPES.
6. INSTALL 25 LF 18" HDPE PIPE w/ TYPICAL END SECTIONS.

LEGEND

	FLOW DIRECTION
	PROPOSED SWALE
FG	FINISHED GRADE ELEVATION
FL	FLOWLINE ELEVATION
FP	FINISHED PAD ELEVATION
TB	TOP OF BERM / TRAIL ELEVATION

SITE LOCATION



KEY MAP NTS

REVISIONS

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POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

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WILSON & COMPANY
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Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

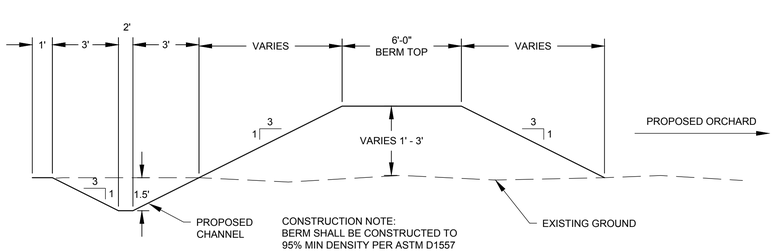
design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

TYLER J. ASHTON NEW MEXICO
2/17/17

DRAWN BY JEM / TJI
DATE February 17, 2017

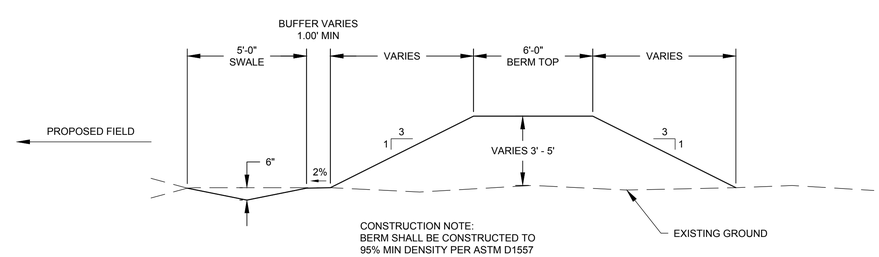
SHEET TITLE
GRADING & DRAINAGE PLAN

SHEET NUMBER
C2-04



2 BERM TYPICAL SECTION @ ACEQUIA

NTS



1 BERM TYPICAL SECTION @ RIVER

NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

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WILSON & COMPANY
4800 Lang Ave. NE
Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

TYLER J. ASHTON
NEW MEXICO
REGISTERED
PROFESSIONAL ENGINEER
21475
2/17/17

DRAWN BY JEM / TJI

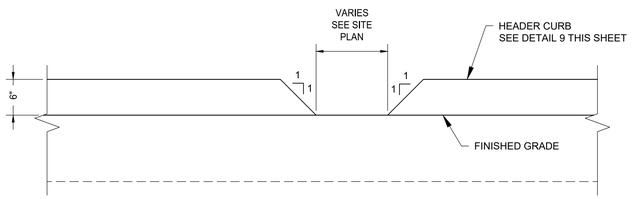
DATE February 17, 2017

SHEET TITLE

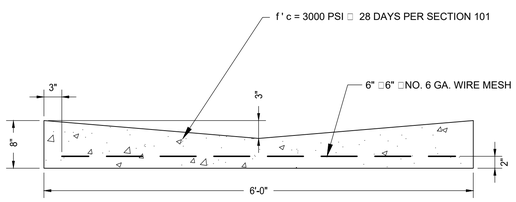
TYPICAL SECTIONS

SHEET NUMBER

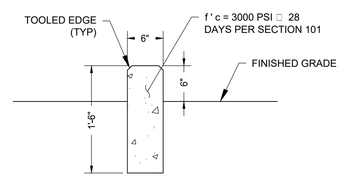
C4-01



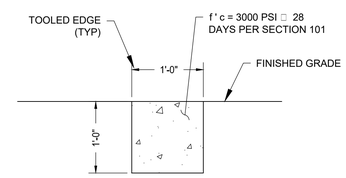
11 HEADER CURB OPENING DETAIL
NTS



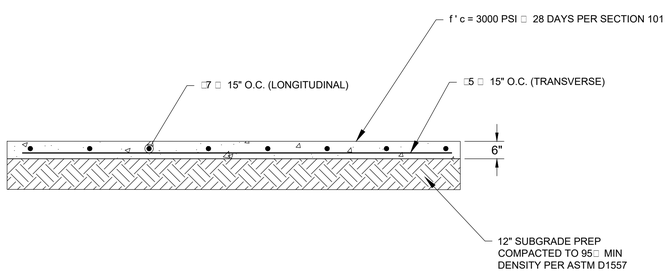
8 VALLEY GUTTER DETAIL
NTS



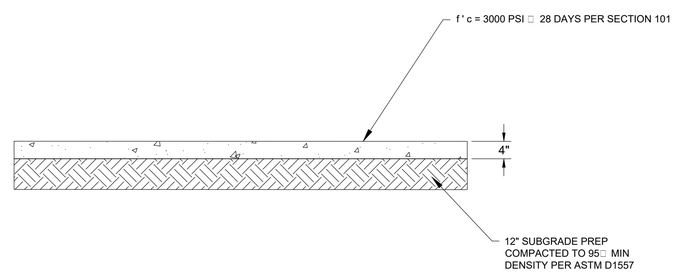
9 18" HEADER CURB DETAIL
NTS



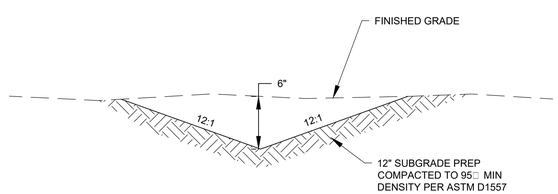
10 12" CURB DETAIL
NTS



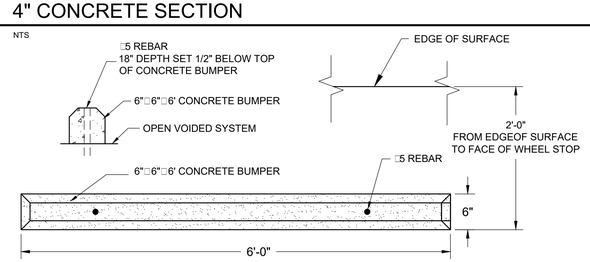
7 6" CONCRETE SECTION
NTS



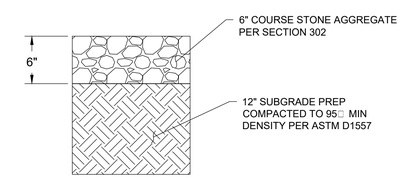
5 4" CONCRETE SECTION
NTS



6 EARTHEN SWALE DETAIL
NTS



4 CONCRETE WHEEL STOP
NTS



1 BASE COURSE DETAIL
NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGEE ROAD)
SANTA FE, NEW MEXICO 87506

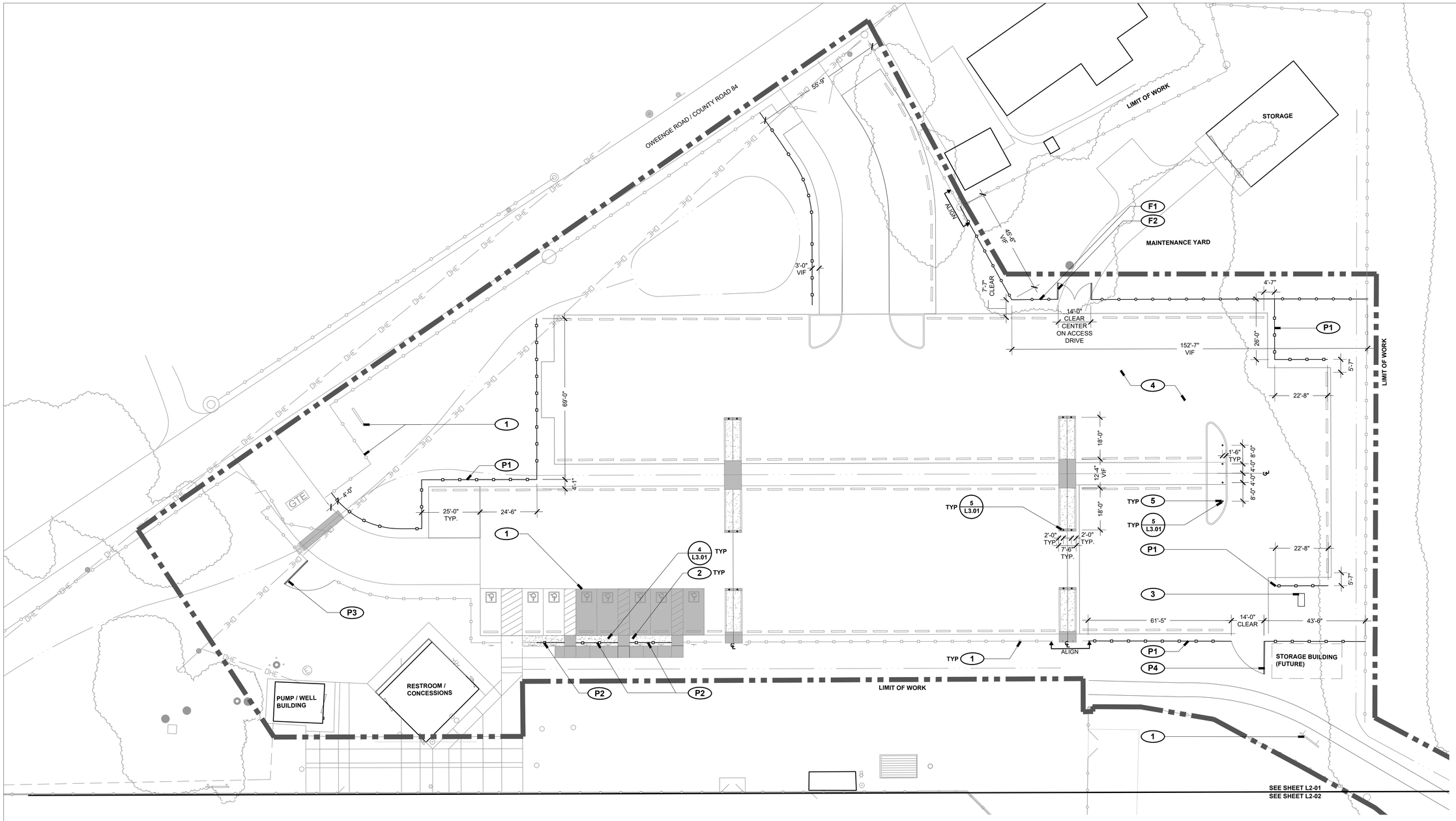
WILSON & COMPANY
WILSON □ COMPANY
4900 Lang A□e NE
Albu□uer□ue, NM 87109
t 505.348.4000
www.wilsonco.com

design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.ds-designoffice.com

DRAWN BY □EM / T□
DATE February 17, 2017

SHEET TITLE
SITE DETAILS

SHEET NUMBER
C4-02



FENCE AND BOLLARD LAYOUT LEGEND

- LIMIT OF WORK
- MATCH LINE
- POST AND CABLE FENCE
- WOOD FENCE
- WOOD FENCE, EXISTING
- CHAINLINK FENCE, EXISTING
- CRUSHER FINES PAVING
- BOLLARD
- SIGN
- PARKING BUMPER
- TREE TRUNK, EXISTING
- TREE CANOPY, EXISTING
- LIGHT POLE, EXISTING FIELD LIGHTING
- CLEANOUT, EXISTING

FENCE AND BOLLARD LAYOUT KEYED NOTES

1. PRESERVE AND PROTECT EXISTING SITE ELEMENTS TO REMAIN, TYP.
2. INSTALL CRUSHER FINES PAVING.
3. FUTURE DUMPSTER LOCATION, NIC.
4. PARKING AREA; SEE CIVIL PLANS FOR LAYOUT AND DETAILS.
5. INSTALL STEEL BOLLARDS; CONFIRM LOCATION IN FIELD WITH LANDSCAPE ARCHITECT.

F1 INSTALL NEW 8 FT WOOD FENCE; SEE DETAIL 2/L3-01; CONFIRM FINAL LAYOUT IN FIELD PRIOR TO CONSTRUCTION.

F2 INSTALL NEW 8 FT WOOD MAINTENANCE YARD ACCESS GATE TO MATCH NEW FENCE; SEE DETAIL 3/L3-01.

P1 INSTALL NEW POST AND CABLE FENCE TO MATCH EXISTING; SEE DETAIL 1/L3-01; ALIGN WITH EXISTING FENCE WHERE INDICATED.

P2 INSTALL SALVAGED POST AND CABLE ELEMENTS TO CLOSE GAPS BETWEEN ACCESS PATHS; ALIGN NEW POSTS WITH EXISTING POSTS VERTICALLY AND HORIZONTALLY; INSTALL POST MAX. 2" FROM EDGE OF CONCRETE PATH; SEE DETAIL 1/L3-01.

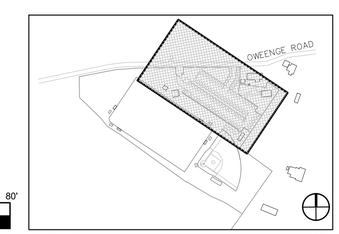
P3 INSTALL NEW 14 FT WIDE SINGLE LEAF STEEL MAINTENANCE ACCESS GATE; ALIGN GATE WITH EAST POST; EXTEND POST AND CABLE FENCE TO MATCH EXISTING TO CLOSE GAP; ALIGN WEST END OF POST AND CABLE WITH END OF SLIDING GATE POST; CONFIRM FINAL LOCATION WITH LANDSCAPE ARCHITECT.

P4 INSTALL NEW 14 FT WIDE SINGLE LEAF STEEL MAINTENANCE ACCESS GATE; ALIGN GATE WITH FENCE; CONFIRM FINAL LOCATION IN FIELD; INSTALL NEW 'FIRE ACCESS NO PARKING' SIGN ON GATE PER APPLICABLE FIRE CODES.

NOTE: ALL NEW WOOD FENCE MATERIALS TO BE TREATED LUMBER OR AS INDICATED ON DETAILED DRAWINGS. FINISHED FENCE TO BE PLUMB, TRUE, AND STRAIGHT.

F: WOOD FENCE
P: POST + CABLE FENCE

SCALE: 1" = 20'-0"
0' 10' 20' 40' 80'



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
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design office
landscape planning urbanism

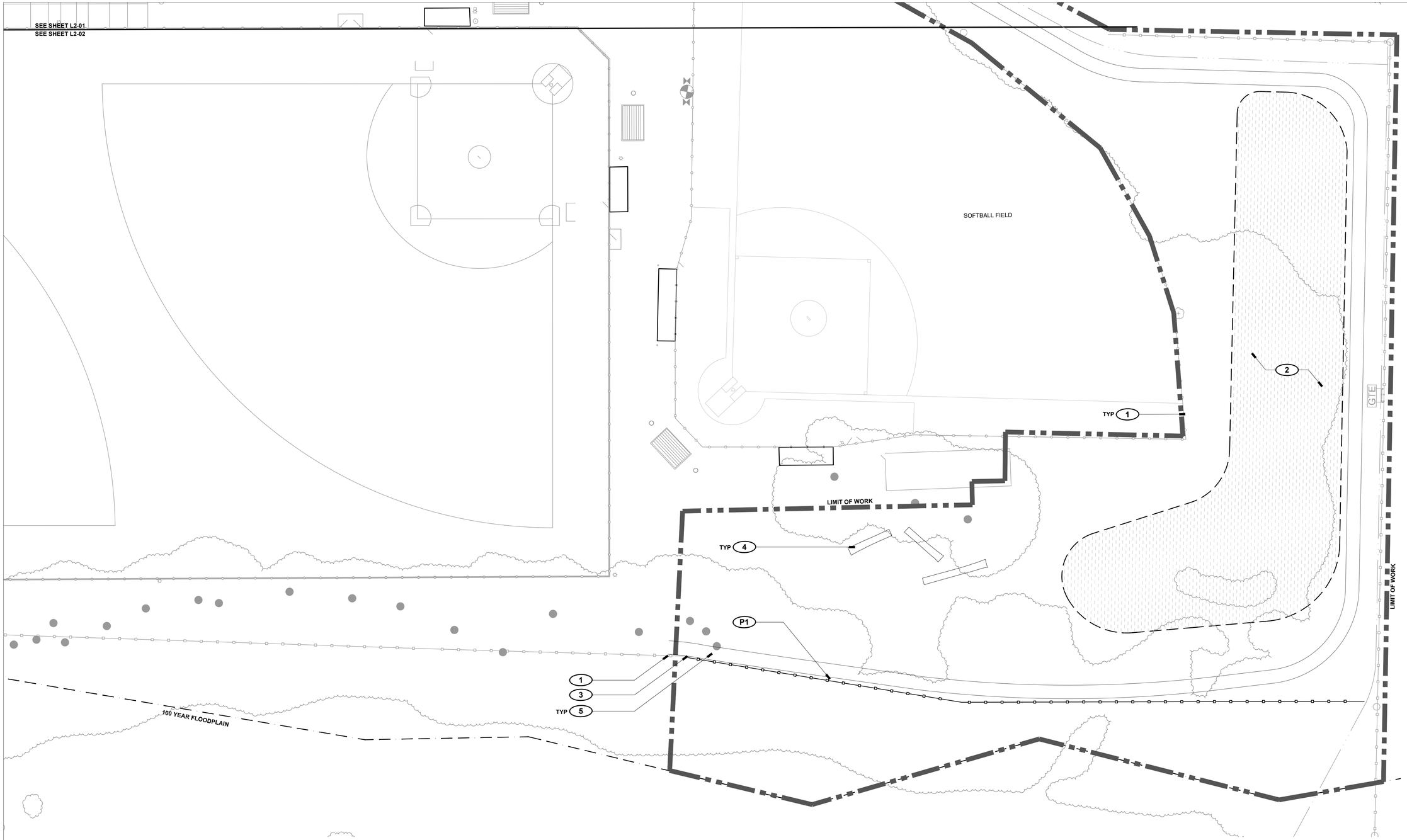
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

STATE OF NEW MEXICO
17 FEBRUARY 2017
C. MEYER HORN
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY PS / CH
DATE February 17, 2017

SHEET TITLE
FENCE AND BOLLARD LAYOUT - PARKING

SHEET NUMBER
L2-01



FENCE AND BOLLARD LAYOUT LEGEND

- LIMIT OF WORK
- MATCH LINE
- POST AND CABLE FENCE
- WOOD FENCE
- WOOD FENCE, EXISTING
- CHAINLINK FENCE, EXISTING
- CRUSHER FINES PAVING
- BOLLARD
- SIGN
- PARKING BUMPER
- TREE TRUNK, EXISTING
- TREE CANOPY, EXISTING
- LIGHT POLE, EXISTING FIELD LIGHTING
- CLEANOUT, EXISTING

FENCE AND BOLLARD LAYOUT KEYED NOTES

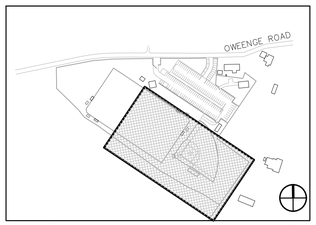
1. PRESERVE AND PROTECT EXISTING SITE ELEMENTS TO REMAIN, TYP.
2. EVENLY SPREAD CHIPPED MATERIAL STORED ON SITE WITHIN BERMED AREA, SEE CIVIL PLANS FOR GRADING.
3. KEEP 3' WIDE CLEAR OPENING BETWEEN EXISTING POST AND CABLE FENCE AND NEW FENCE SECTION.
4. PLACE SALVAGED COTTONWOOD TREE SECTIONS IN LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT; REMOVE SHARP PROTRUDING ELEMENTS FROM TRUNKS; ADJUST SUBGRADE AS NEEDED SO LOGS ARE SECURELY IN PLACE.
5. BERM / WALKING TRAIL; SEE CIVIL PLANS FOR LAYOUT.

P1. INSTALL NEW POST AND CABLE FENCE TO MATCH EXISTING; SEE DETAIL 1/L3-01; ALIGN WITH EXISTING FENCE; CONFIRM FINAL ALIGNMENT IN FIELD PRIOR TO CONSTRUCTION.

NOTE: ALL NEW WOOD FENCE MATERIALS TO BE TREATED LUMBER OR AS INDICATED ON DETAILED DRAWINGS. FINISHED FENCE TO BE PLUMB, TRUE, AND STRAIGHT.

SCALE: 1" = 20'-0"

0' 10' 20' 40' 80'



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
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design office
landscape planning urbanism

DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

STATE OF NEW MEXICO
17 February 2017
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY PS / CH

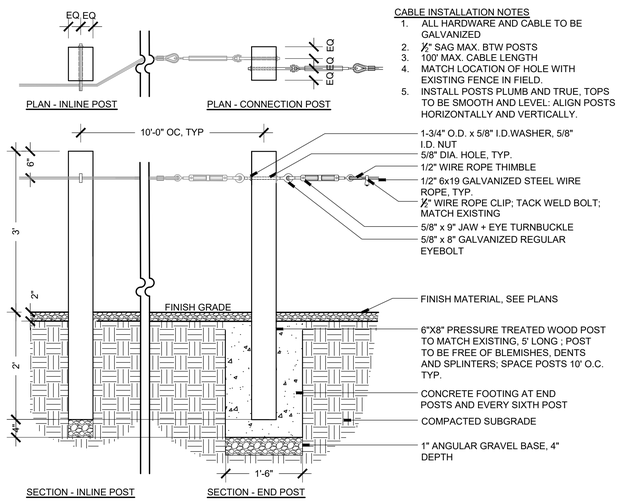
DATE February 17, 2017

SHEET TITLE

FENCE AND BOLLARD LAYOUT - FIELD

SHEET NUMBER

L2-02

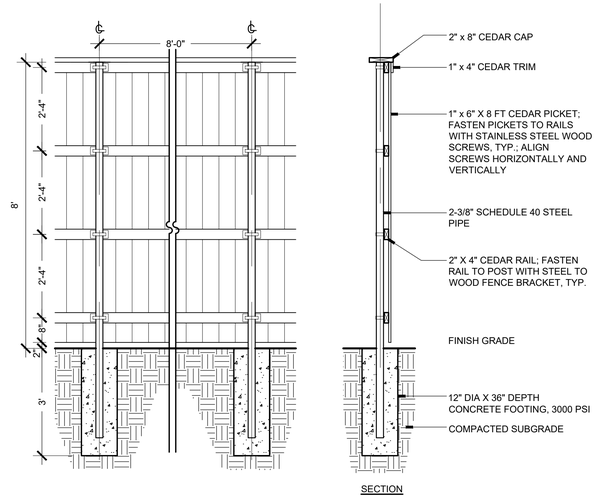


CABLE INSTALLATION NOTES

1. ALL HARDWARE AND CABLE TO BE GALVANIZED
2. 1/2" SAG MAX. BTW POSTS
3. 100' MAX. CABLE LENGTH
4. MATCH LOCATION OF HOLE WITH EXISTING FENCE IN FIELD.
5. INSTALL POSTS PLUMB AND TRUE, TOPS TO BE SMOOTH AND LEVEL: ALIGN POSTS HORIZONTALLY AND VERTICALLY.

1 POST AND CABLE FENCE

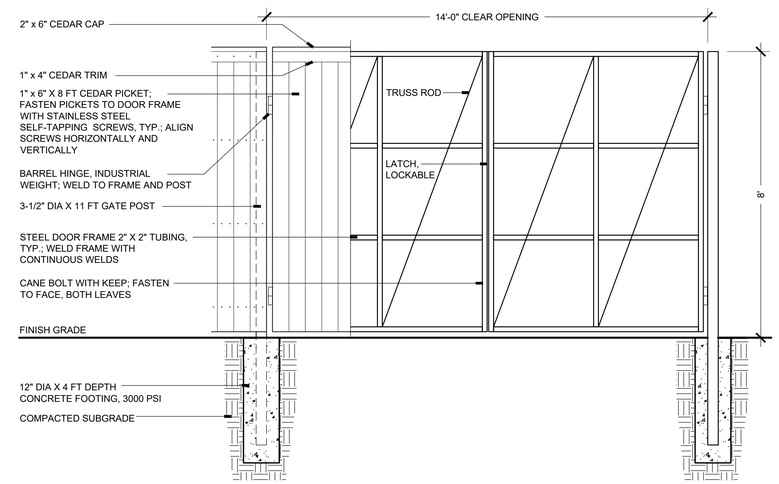
SCALE: 3/4"=1'-0"



2 WOOD PRIVACY FENCE

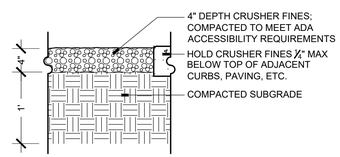
SCALE: 1/2"=1'-0"

NOTE:
CONTRACTOR TO SIZE SUPPORT POST AND FOOTINGS TO ACCOMMODATE GATE WEIGHT



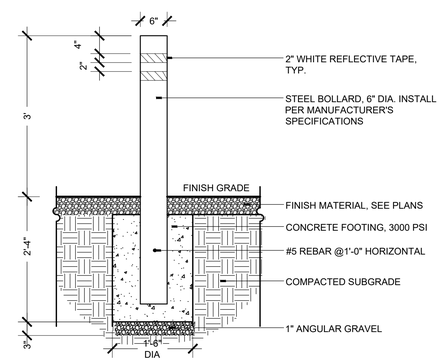
3 WOOD PRIVACY FENCE - DOUBLE LEAF VEHICULAR GATE

SCALE: 1/2"=1'-0"



4 CRUSHER FINES PAVING

SCALE: 1"=1'-0" SECTION



5 BOLLARD - FIXED

SCALE: 1"=1'-0" SECTION

REVISIONS

ISSUED	DATE	DESCRIPTION

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SANTA FE COUNTY

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STATE OF NEW MEXICO
17 February 2017
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY PS / CH

DATE February 17, 2017

SHEET TITLE

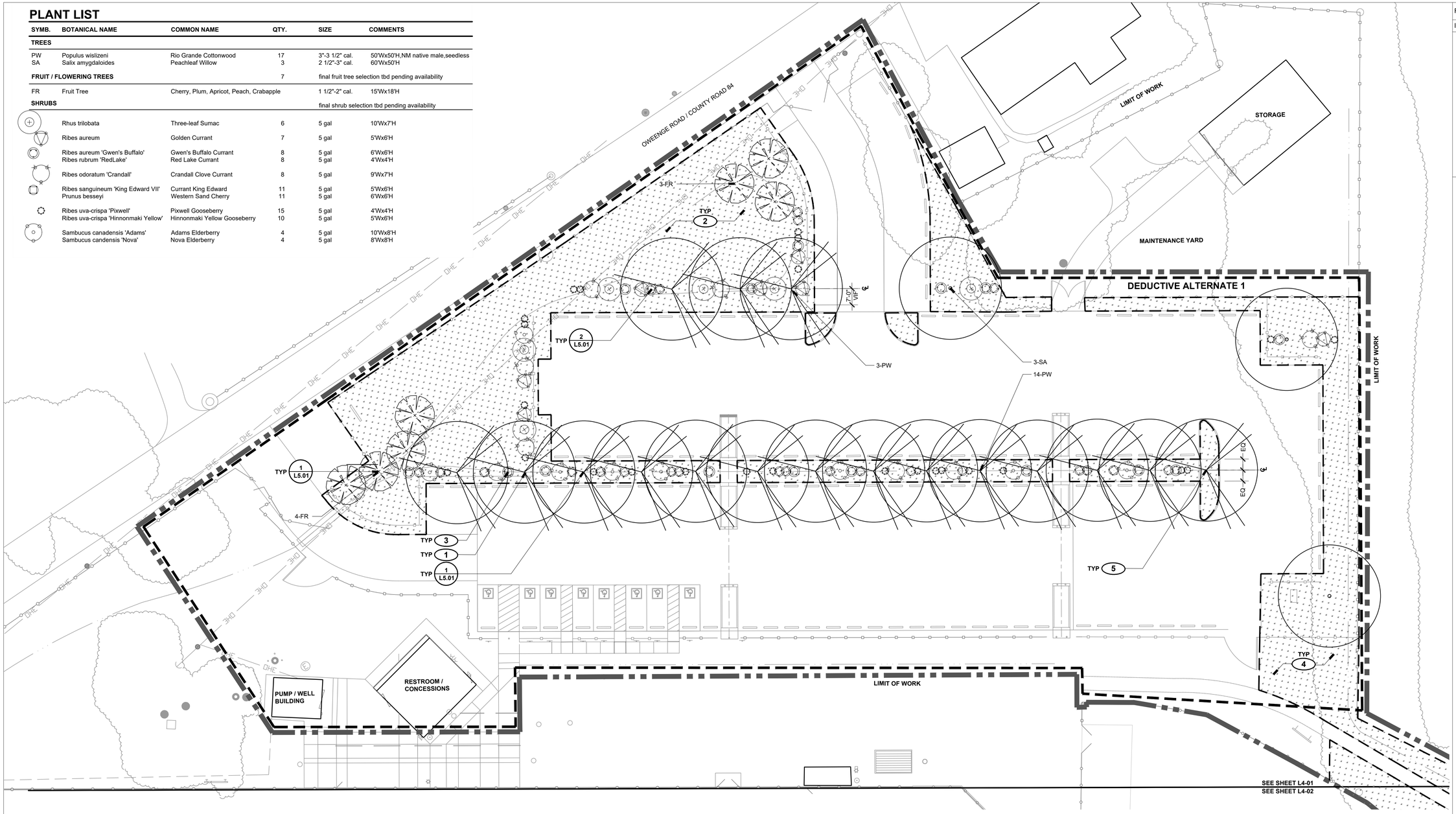
FENCE AND BOLLARD DETAILS

SHEET NUMBER

L3-01

PLANT LIST

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	COMMENTS
TREES					
PW	Populus wislizeni	Rio Grande Cottonwood	17	3"-3 1/2" cal.	50'Wx50'H,NM native male,seedless
SA	Salix amygdaloides	Peachleaf Willow	3	2 1/2"-3" cal.	60'Wx50'H
FRUIT / FLOWERING TREES			7	final fruit tree selection tbd pending availability	
FR	Fruit Tree	Cherry, Plum, Apricot, Peach, Crabapple		1 1/2"-2" cal.	15'Wx18'H
SHRUBS				final shrub selection tbd pending availability	
	Rhus trilobata	Three-leaf Sumac	6	5 gal	10'Wx7'H
	Ribes aureum	Golden Currant	7	5 gal	5'Wx6'H
	Ribes aureum 'Gwen's Buffalo'	Gwen's Buffalo Currant	8	5 gal	6'Wx6'H
	Ribes rubrum 'RedLake'	Red Lake Currant	8	5 gal	4'Wx4'H
	Ribes odoratum 'Crandall'	Crandall Clove Currant	8	5 gal	9'Wx7'H
	Ribes sanguineum 'King Edward VII'	Currant King Edward	11	5 gal	5'Wx6'H
	Prunus besseyi	Western Sand Cherry	11	5 gal	6'Wx6'H
	Ribes uva-crispa 'Pixwell'	Pixwell Gooseberry	15	5 gal	4'Wx4'H
	Ribes uva-crispa 'Hinnonmaki Yellow'	Hinnonmaki Yellow Gooseberry	10	5 gal	5'Wx6'H
	Sambucus canadensis 'Adams'	Adams Elderberry	4	5 gal	10'Wx8'H
	Sambucus candensis 'Nova'	Nova Elderberry	4	5 gal	8'Wx8'H



PLANTING LEGEND

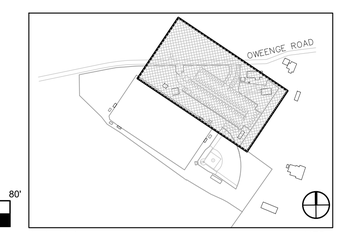
- LIMIT OF WORK
- MATCH LINE
- TREE TRUNK AND CANOPY (EXISTING)
- TREE (NEW)
- SHRUBS (NEW)
- NATIVE GRASS RESEEDING

PLANTING KEYED NOTES

1. INSTALL SHADE TREE AS SHOWN; CONFIRM FINAL LOCATION IN FIELD
2. DISTRIBUTE HARVESTED TOPSOIL WITH NATIVE SEEDBANK IN LOCATION AS INDICATED; CONFIRM EXTENTS IN FIELD WITH LANDSCAPE ARCHITECT.
3. CONTRACTOR TO LAYOUT PLANT MATERIAL IN FIELD FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PLANTING, TYP.
4. INSTALL NATIVE GRASS SEEDING; CONFIRM SEEDING EXTENTS IN FIELD PRIOR TO RESEEDING.
5. TRIM LIMBS OVERLAPPING DRIVE ISLE TO 13'-6" VERTICAL CLEARANCE, IF NECESSARY.

SCALE: 1" = 20'-0"

0' 10' 20' 40' 80'



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
SANTA FE, NEW MEXICO 87506

design office
landscape planning urbanism

DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.do-designoffice.com

STATE OF NEW MEXICO
17 FEBRUARY 2017
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY PS / CH

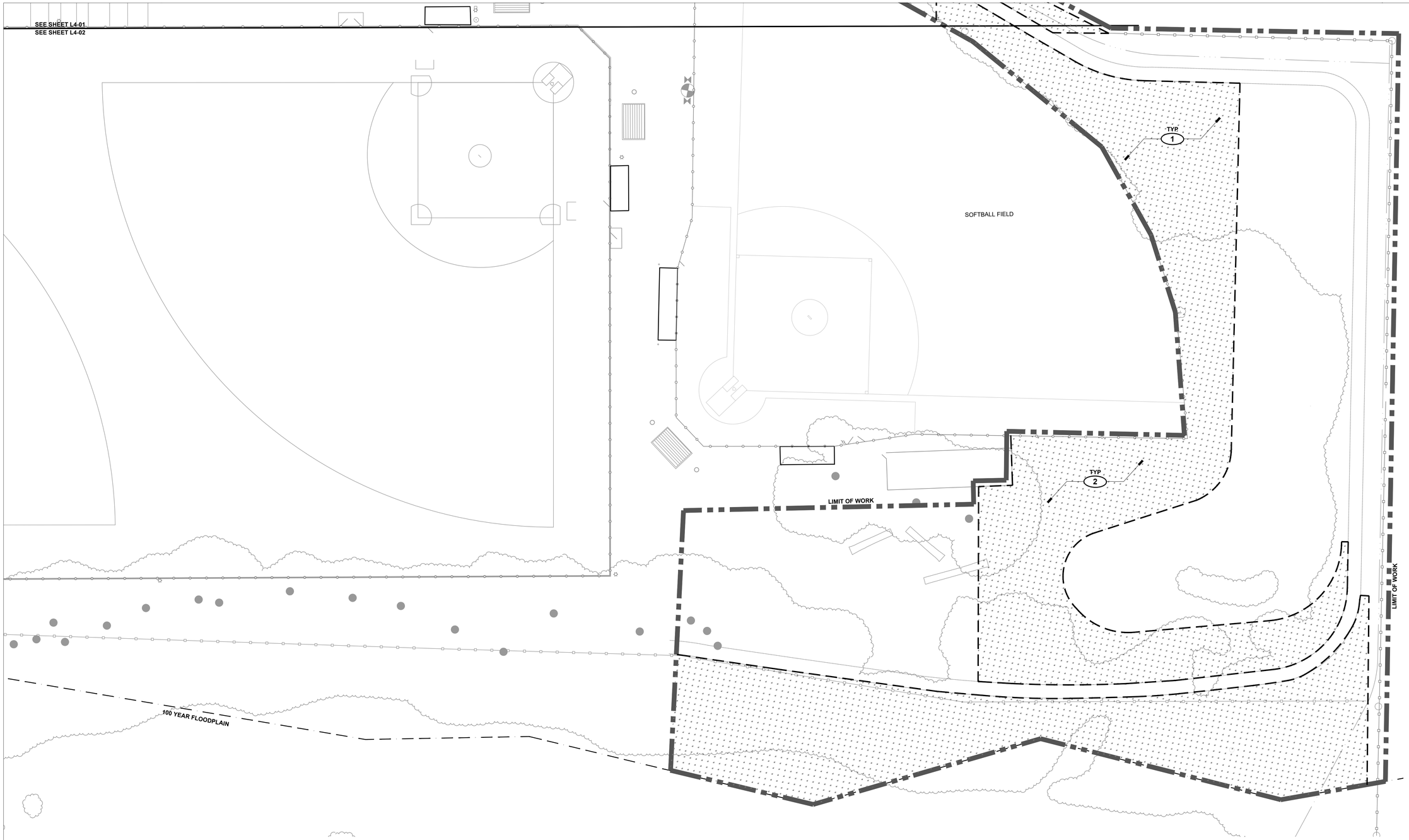
DATE February 17, 2017

SHEET TITLE

PLANTING PLAN - PARKING

SHEET NUMBER

L4-01



PLANTING LEGEND

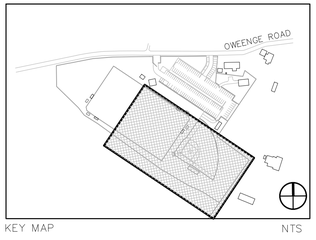
- LIMIT OF WORK
- MATCH LINE
- TREE TRUNK AND CANOPY (EXISTING)
- TREE (NEW)
- SHRUBS (NEW)
- NATIVE GRASS RESEEDING

PLANTING KEYED NOTES

1. DISTRIBUTE HARVESTED TOPSOIL WITH NATIVE SEEDBANK IN LOCATION AS INDICATED; CONFIRM EXTENTS IN FIELD WITH LANDSCAPE ARCHITECT.
2. INSTALL NATIVE GRASS SEEDING, HYDROSEED; NON-IRRIGATED; CONFIRM SEEDING EXTENTS IN FIELD PRIOR TO RESEEDING.

SCALE: 1" = 20'-0"

0' 10' 20' 40' 80'



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t 505.983.1415
www.do-designoffice.com

STATE OF NEW MEXICO
17 FEB 2017
C.M. Horn
CLAUDIA MEYER HORN
371
REGISTERED LANDSCAPE ARCHITECT

DRAWN BY PS / CH

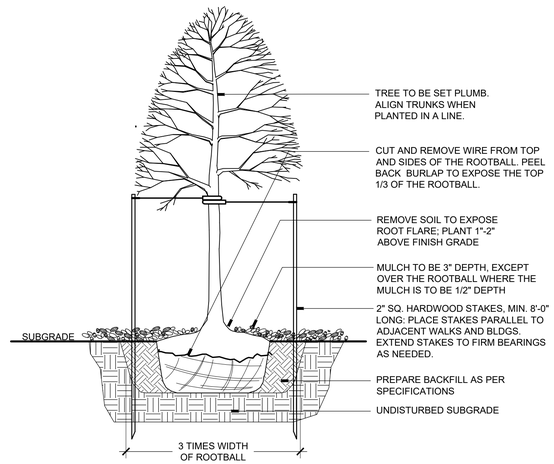
DATE February 17, 2017

SHEET TITLE

PLANTING PLAN - FIELD

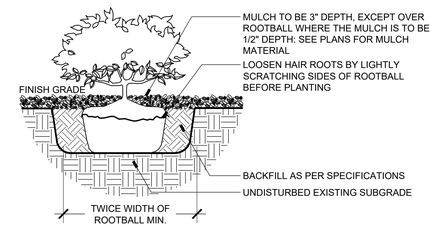
SHEET NUMBER

L4-02



1 TREE PLANTING

SCALE: 1 /2"=1'-0" SECTION



2 SHRUB / PERENNIAL PLANTING

SCALE: 1"=1'-0" SECTION

REVISIONS

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Santa Fe, NM 87505
t 505.983.1415
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SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGE ROAD)
SANTA FE, NEW MEXICO 87506

DRAWN BY PS / CH

DATE February 17, 2017

SHEET TITLE

PLANTING DETAILS

SHEET NUMBER

L5-01

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	DETAIL NO.
▼	RAIN BIRD	44-LRC	QUICK COUPLING VALVE	3
	HUNTER	SOLAR SYNC - WSS	WEATHER SENSOR DEVICE	1
A B			EXISTING AND RE-LOCATED CONTROLLER	16
N/S	MATCO	201X	MANUAL DRAIN VALVE	2
		LINE SIZE - 2½" AND SMALLER	GATE VALVE	4
		LINE SIZE - 3" AND LARGER	GATE VALVE	15
		CLASS 200 BE - 2½" & SMALLER	PVC MAINLINE	5
		CLASS 200 RT - 3" & LARGER	PVC MAINLINE	5 & 14
N/S			THRUST BLOCKS	14
		CLASS 200 BE	PVC LATERAL	5
		CLASS 160	PVC SLEEVING	6
	NETAFIM	LVCZS8010075-LF OR LVCZS80100T5-HF	SUBSURFACE VALVE ASSEMBLY	7
			DRIP LINE BLOW-OUT STUB	13
	NETAFIM	TLCV4-12 RINGS SPACED PER DETAIL	SUBSURFACE DRIPLINE RING - TREE	10 & 12
N/S	NETAFIM	TLCV4-12 RONS SPACED 12"	SUBSURFACE DRIPLINE	9, 10 & 11
		CLASS 200 BE	SUBSURFACE HEADER PIPE - 1" PVC	7, 8, 10, 11 & 12
	NETAFIM	COMBINATION TEE	DRIPPERLINE CONNECTION	8
S	NETAFIM	WM-150-1.0-RS	SUBMETER	17
M			WELL METER	PER COUNTY SPECIFICATIONS

GPM — CONTROLLER & STATION NO. / CONTROL VALVE SIZE

3-9 — A (controller) — NUMBER OF SPARE WIRES - 2 CONTROL AND 1 SPARE WIRES TO WHICH CONTROLLER - SEE CONSTRUCTION NOTES

IRRIGATION CONSTRUCTION NOTES

1. DRAWINGS AND BASE INFORMATION - ALL BASE AND PLANTING INFORMATION HAVE BEEN PROVIDED BY DESIGN OFFICE. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY HYDROSYSTEMS*KDI OF ANY DISCREPANCIES BETWEEN THE UTILITY OR PLANTING PLANS AND THE IRRIGATION PLAN. IF CONTRACTOR FAILS TO NOTIFY HYDROSYSTEMS*KDI AND MAKES CHANGES TO THE IRRIGATION SYSTEM DESIGN, HE ASSUMES ALL COSTS AND LIABILITIES ASSOCIATED WITH THOSE FIELD CHANGES. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.

2. SYSTEM PRESSURE - HYDROSYSTEMS*KDI HAS CONTACTED THE MAINTENANCE PERSONNEL THAT SERVES THIS SITE AND THEY HAVE BEEN TOLD THAT THE STATIC WATER PRESSURE IN THIS AREA SHOULD BE **70** PSI. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PRESSURE PRIOR TO COMMENCING ANY CONSTRUCTION AND NOTIFY HYDROSYSTEMS*KDI OF ANY VARIANCE FROM THE STATED PRESSURE IMMEDIATELY. WRITTEN DOCUMENTATION OF PRESSURE TEST AND RESULTS SHALL BE PROVIDED TO HYDROSYSTEMS*KDI AT CONSTRUCTION ONSET. IF CONTRACTOR FAILS TO FIELD VERIFY PRESSURE AND/OR NOTIFY HYDROSYSTEMS*KDI OR ANY VARIATIONS FROM THIS PRESSURE, THEN HE ASSUMES ALL CONSTRUCTION AND ENGINEERING COSTS ASSOCIATED WITH SYSTEM MODIFICATIONS REQUIRED TO ACCOMMODATE ACTUAL SITE PRESSURE. THIS SYSTEM HAS BEEN DESIGNED FOR A REQUIRED STATIC PRESSURE OF **65** PSI MINIMUM.

3. IRRIGATION SYSTEM OPERATION INTENT - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO IRRIGATE THE ESTABLISHED LANDSCAPE WITHIN A SIX NIGHT PER WEEK, SIX HOUR PER NIGHT WATERING WINDOW. ESTABLISHMENT WATERING WILL REQUIRE UP TO TWICE AS MUCH IRRIGATION FOR A FOUR TO SIX WEEK PERIOD. THE DESIGN IS BASED ON THE FOLLOWING PROJECTED WEEKLY APPLICATION RATES AFTER ESTABLISHMENT. THESE FIGURES ARE BASED ON A 30-YEAR AVERAGE WEATHER DATA AND WILL NEED TO BE ADJUSTED DUE TO SEASONAL CHANGES AND WEATHER CONDITIONS ABOVE AND BELOW THE AVERAGE VALUES UTILIZED.

BLUEGRASS TURF	1.81" PER WEEK PEAK SEASON
ORNAMENTAL PLANTINGS	0.94" PER WEEK PEAK SEASON

4. EQUIPMENT INSTALLATION - IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED WITHIN PROPERTY LIMITS AND WITHIN LANDSCAPED AREAS. ANY EQUIPMENT SHOWN OUTSIDE OF THESE LIMITS IS SHOWN IN THAT LOCATION FOR GRAPHICAL CLARITY ONLY. ALL VALVE BOXES SHALL BE INSTALLED A MINIMUM OF 2'-0" FROM EDGE OF ANY PAVED SURFACES. ALL VALVE BOXES SHALL BE PLACED A MINIMUM OF 3'-0" FROM THE CENTERLINE OF ANY DRAINAGE SWALE. VALVE BOX COLOR TO MATCH ADJACENT FINISH SURFACE COLOR, TYPICAL (I.E. TAN IN GRAVEL AREAS, GREEN IN GRASS AREAS).

5. SLEEVING - ALL SLEEVING UNDER PAVED SURFACES SHOWN ON PLANS IS BY CONTRACTOR UNLESS OTHERWISE NOTED. SLEEVING SHALL BE INSTALLED IN THE SIZES AND QUANTITIES SHOWN ON PLANS OR BASED ON THE SCHEDULE BELOW. WHERE SLEEVES ARE SHOWN, BUT NOT LABELED, FOLLOW THE SCHEDULE BELOW. ALL MAINLINE, CONTROL WIRES AND DRIP LINES UNDER PAVED SURFACES ARE TO BE INSTALLED IN SLEEVING. ALL MAINLINE SLEEVE LOCATIONS TO INCLUDE A SEPARATE WIRE SLEEVE.

SLEEVED PIPE SIZE/WIRE QUANTITY	REQUIRED SLEEVE SIZE & (QUANTITY)
¾" - 1¼" PIPING	2" PVC (1)
1½" - 2" PIPING	4" PVC (1)
1-50 CONTROL WIRES	3" PVC (1)

6. MANUAL DRAIN VALVES - CONTRACTOR TO INSTALL ONE MANUAL DRAIN VALVE ON PRESSURE SUPPLY LINE DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER AND AT ALL LOW POINTS AND DEAD ENDS OF PRESSURE SUPPLY PIPING TO INSURE COMPLETE DRAINAGE OF SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE LOCATIONS IN-FIELD AND INSTALLATION LOCATIONS SHALL BE NOTED ON AS-BUILTS.

7. DRIP IRRIGATION - REFER TO IRRIGATION DETAIL SHEET FOR DRIP EMITTER FLOW, SPACING AND PLACEMENT.

8. SPARE CONTROL WIRES - CONTRACTOR SHALL EXTEND THREE SPARE WIRES (ONE COMMON AND 2 CONTROL WIRES) FROM EACH CONTROLLER TO THE END OF THE MAINLINE SERVING THAT CONTROLLER OR AS SHOWN ON THE PLANS. INSTALL SPARE WIRES IN 10" ROUND VALVE BOX WITH QUICK COUPLING VALVE. REFER TO SPECIFICATIONS FOR WIRE COLOR. SEE IRRIGATION SCHEDULE FOR ADDITIONAL INFORMATION.

9. SIMULTANEOUS ZONE OPERATION - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO OPERATE MULTIPLE ZONES SIMULTANEOUSLY BASED ON INDIVIDUAL ZONE FLOW. THE DESIGN IS INTENDED TO OPERATE MULTIPLE VALVES, UP TO THE MAXIMUM FLOW IN THE POINT OF CONNECTION NOTE. REFER TO CONTROLLER SPECIFICATION FOR MAXIMUM SIMULTANEOUS VALVE COUNT.

10. UNLABELED PIPING - ALL UNLABELED LATERAL PIPING SHALL BE 1" MINIMUM UNLESS OTHERWISE NOTED.

Project 5864 - Pojoaque Park Phase 2
Location Pojoaque
Point of Connection Description **Tap 1**

Date Prepared **17-Feb-17**

Allowable Watering Window: four nights per week, eight hours per night (32 hours/week).
Estimated weekly application for Drip Irrigated Trees = 24.00 gal/wk.
Estimated weekly application for Drip Irrigated Shrubs = 4.00 gal/wk.
Estimated weekly application for Drip Irrigated Perennials = 2.00 gal/wk.
Estimated weekly application for Drip Irrigated Gardens = 3.00 gal/wk.
Estimated weekly application for Drip Irrigated Riparian Areas = 2.00 gal/wk.
Prepared by HydroSystems-KDI, Inc.

Zone Number	Plant Type(s)	Hydrozone Category	Zone Irrigation Description	Nozzle or Emitter (if Applicable)	Precip. Rate (in/hr)	Quantity of plants	Zone Flow (GPM)	Peak Demand (in/wk)	Year 1 Peak Water Use (gal/wk)	Year 1 Peak Zone Run Time (min/wk)	Year 2 Peak Water Use (gal/wk)	Year 2 Peak Zone Run Time (min/wk)	Year 3 Peak Water Use (gal/wk)	Year 3 Peak Zone Run Time (min/wk)	Design Operating Pressure (psi)
A3	Trees	Low	Drip - Inline	0.4	0.45	7	0.93	1.07	168	142.6	126	107	101	86	35
A4	Shrubs	Low	Drip - Inline	0.4	0.45	117	2.34	1.60	468	213.9	351	160	164	75	35
A5	Trees	Low	Drip - Inline	0.4	0.45	18	2.40	1.07	432	142.6	324	107	259	86	35
Projected weekly water use (gallons) during peak season for this controller									1,068		1,401		1,124		
Projected yearly water use (acre feet) during season for this controller									3.93		3.86		3.80		
Projected weekly runtime (hours) of Overhead Irrigation for this controller*										270.84		241.60		206.69	

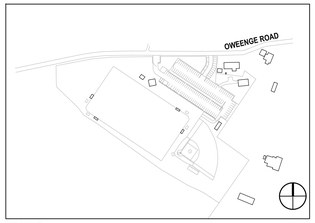
Zones supplying Cottonwoods and zone establishing riparian area shall continue to be weaned off of irrigation past year 3.

REFER TO SHEET

IR1-01	IRRIGATION NOTES
IR1-01	IRRIGATION SCHEDULE
IR2-01	IRRIGATION PLANS
IR3-01-IR3-02	IRRIGATION DETAILS

HydroSystems-KDI, Inc. — Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGEE ROAD)
SANTA FE, NEW MEXICO 87506

WILSON & COMPANY
WILSON & COMPANY
4900 Lang Ave. NE,
Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.ad-designoffice.com

AMBER CLARK
Certified Irrigation Designer
CID
Irrigation Association
78211

DRAWN BY AMC
DATE February 17, 2017

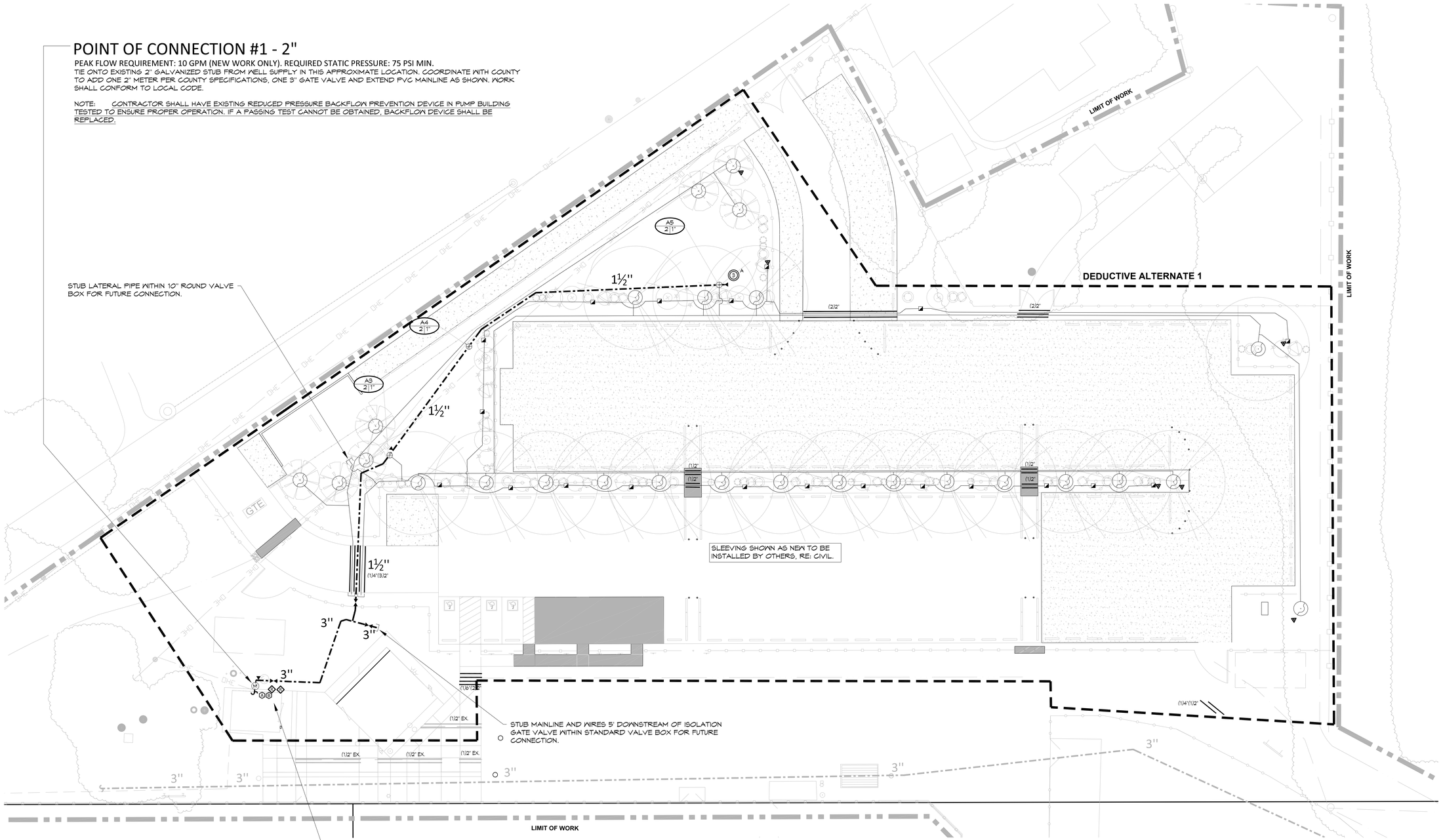
SHEET TITLE
IRRIGATION COVER

SHEET NUMBER
IR1-01

POINT OF CONNECTION #1 - 2"

PEAK FLOW REQUIREMENT: 10 GPM (NEW WORK ONLY). REQUIRED STATIC PRESSURE: 75 PSI MIN.
TIE ONTO EXISTING 2" GALVANIZED STUB FROM WELL SUPPLY IN THIS APPROXIMATE LOCATION. COORDINATE WITH COUNTY TO ADD ONE 2" METER PER COUNTY SPECIFICATIONS, ONE 3" GATE VALVE AND EXTEND PVC MAINLINE AS SHOWN. WORK SHALL CONFORM TO LOCAL CODE.

NOTE: CONTRACTOR SHALL HAVE EXISTING REDUCED PRESSURE BACKFLOW PREVENTION DEVICE IN PUMP BUILDING TESTED TO ENSURE PROPER OPERATION. IF A PASSING TEST CANNOT BE OBTAINED, BACKFLOW DEVICE SHALL BE REPLACED.



CONTROLLER LOCATIONS

ONE EXISTING IRRITROL CONTROLLER IS INSTALLED WITHIN PUMP BUILDING. EXISTING VALVES ASSOCIATED WITH CURRENT WIRING CONFIGURATION ARE NO LONGER IN SERVICE. REMOVE EXISTING WIRING. EXISTING VALVES AT THE MULTI USE FIELD ARE CURRENTLY SERVED BY EXISTING CONTROLLER EAST OF SOFTBALL FIELD ON POLE. DISCONNECT FROM CONTROLLER AND RUN NEW WIRE FROM PUMP HOUSE CONTROLLER TO EXISTING VALVES AT SOFTBALL FIELD.

RELOCATE EXISTING CONTROLLER AT SOFTBALL TO PUMP BUILDING AND INSTALL NEXT TO CONTROLLER "A". THIS CONTROLLER SHALL BE USED AS "CONTROLLER B" FOR FUTURE PLANS. EXTEND WIRE OUT OF BUILDING IN CONDUIT. EXTEND TEN CONTROL WIRES WITH SPARES FOR FUTURE "B" VALVES AND STUB WITH MAINLINE FOR FUTURE CONNECTION. CLEARLY LABEL CONTROLLERS AS "A" AND "B" ON THE EXTERIOR OF CONTROLLER CABINETS.

INSTALL NEW WIRES IN CONDUIT TO BUILDING EXTERIOR AND EXTEND TO NEW CONTROLLER "A" VALVE LOCATIONS SHOWN. EXTEND FIVE CONTROL WIRES FOR FUTURE "A" VALVES AND STUB WITH MAINLINE FOR FUTURE CONNECTION. FEES AND PERMITS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID BY CONTRACTOR. FINAL CONTROLLER LOCATION SHALL BE APPROVED BY CONSULTANT PRIOR TO INSTALLATION. MOUNT TWO RAIN SENSORS ON BUILDING WHERE THERE IS 20 FT. OF CLEARANCE FROM ANY OVERHANG OR OBSTRUCTING FEATURE. INSTALL RAIN SENSOR RECEIVERS IN CONTROLLER ENCLOSURES. FINAL RAIN SENSORS LOCATIONS SHALL BE APPROVED BY CONSULTANT PRIOR TO INSTALLATION.

REFER TO SHEET

IR1-01	IRRIGATION NOTES
IR1-01	IRRIGATION SCHEDULE
IR2-01	IRRIGATION PLANS
IR3-01-IR3-02	IRRIGATION DETAILS

SCALE: 1" = 20'-0"
0' 10' 20' 40' 80'

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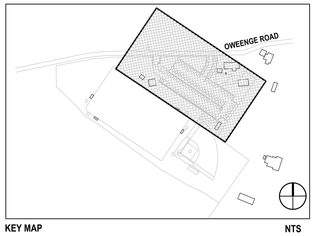

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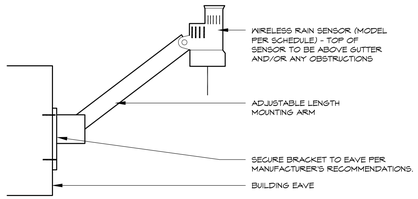
78211

DRAWN BY AMC
DATE February 17, 2017

SHEET TITLE
IRRIGATION PLAN

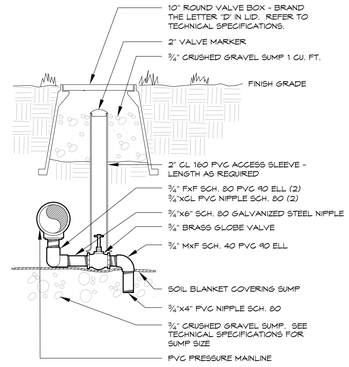
SHEET NUMBER
IR2-01



NOTE: MOUNT RAIN SENSOR RECEIVER PER CONTROLLER DETAIL.

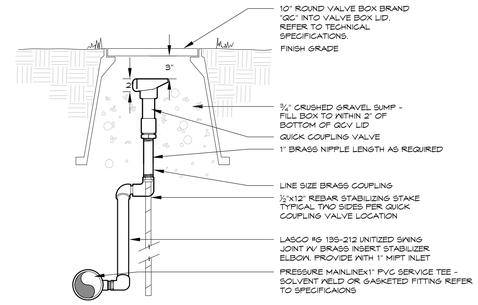
WEATHER SENSOR (1)

EAVE MOUNTED - Wireless



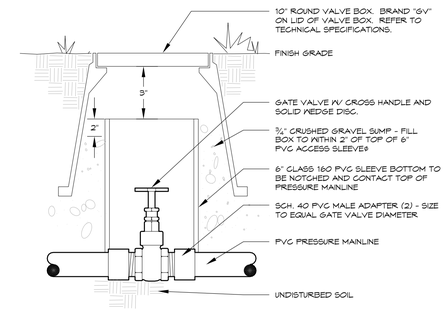
APPLY TEFLON TAPE TO ALL MALE THREADED PVC FITTINGS AND ALL NIPPLES

MANUAL DRAIN VALVE (2)

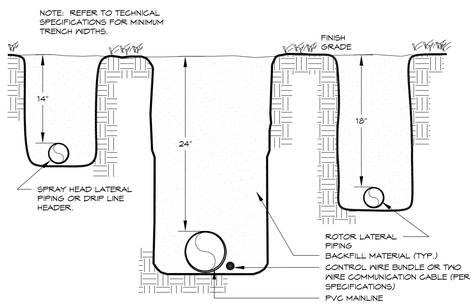


APPLY TEFLON TAPE TO ALL THREADED NIPPLES

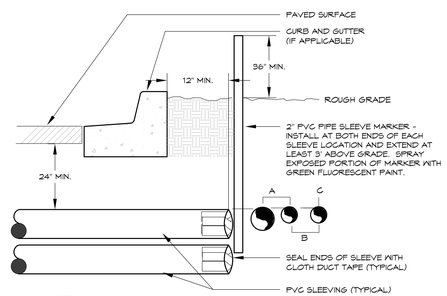
QUICK COUPLING VALVE (3)



GATE VALVE (4)

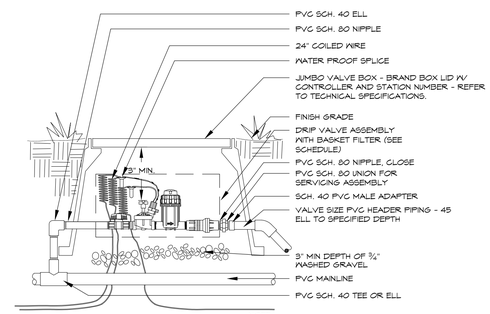


TRENCH (5)



NOTE:
- ALL SLEEVING TO BE CLASS 160 BE PVC, SIZE AS NOTED.
- INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.
- CONTRACTOR TO COORDINATE WITH FLATWORK INSTALLER TO BRAND A "V" IN SIDEWALK OR CURB AT BOTH ENDS OF SLEEVE CROSSING.

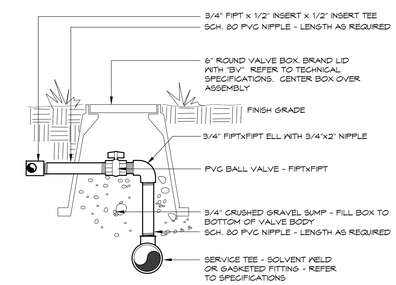
IRRIGATION SLEEVING (6)



NOTE:
INSTALL ASSEMBLY TO REST ON GRAVEL SUMP. CONTAIN ENTIRE ASSEMBLY WITHIN BOX. NO VALVE BOX EXTENSIONS WILL BE ACCEPTED. PROVIDE 3'-4' CLEARANCE BETWEEN TOP OF CONTROL VALVE SOLENOID AND BOTTOM OF VALVE BOX LID. TOP OF VALVE BOX TO BE FLUSH WITH FINISH GRADE. VALVE BOX SHALL NOT REST ON DRIP TUBING.

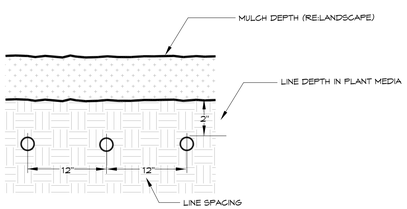
DRIP VALVE (7)

LARGE WITH PVC LATERAL

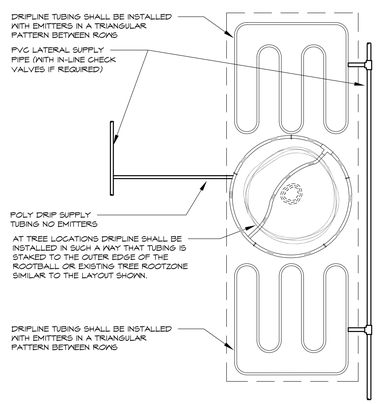


NOTE: APPLY TEFLON TAPE TO ALL MALE THREADED FITTINGS AND THREADED NIPPLES

EMITTER TUBING CONNECTION (8)

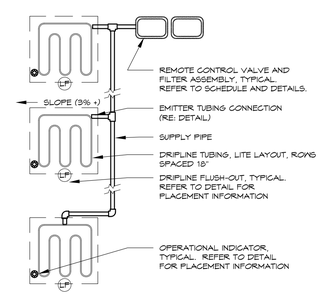


EMITTER SUBGRADE INSTALLATION (9)



EMITTER TUBING LAYOUT (10)

SHRUB BED WITH TREES



DRIP LINE SHALL BE WATER TESTED IN PRESENCE OF PROJECT MANAGER AND IRRIGATION PROJECT MANAGER PRIOR TO BURIAL.

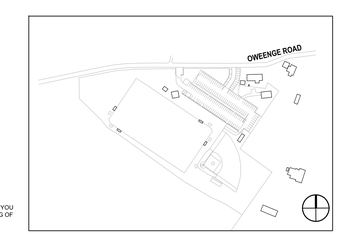
A MAXIMUM OF 600 LINEAR FEET OF EMITTER TUBING SHALL BE INSTALLED AS PART OF ANY ONE CONNECTION TEE.

EMITTER TUBING LAYOUT (11)

SHRUB BED LAYOUT

REFER TO SHEET

IR1-01	IRRIGATION NOTES
IR1-01	IRRIGATION SCHEDULE
IR2-01	IRRIGATION PLANS
IR3-01-IR3-02	IRRIGATION DETAILS



KEY MAP NTS

HydroSystems-KDI, Inc.
Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGEE ROAD)
SANTA FE, NEW MEXICO 87506

WILSON & COMPANY
WILSON & COMPANY
4900 Lang Ave. NE,
Albuquerque, NM 87109
t 505.348.4000
www.wilsonco.com

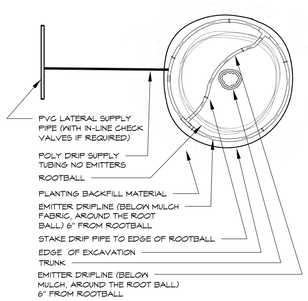
design office
landscape planning urbanism
DESIGN OFFICE
1300 Luisa street, Suite 24
Santa Fe, NM 87505
t 505.983.1415
www.ab-designoffice.com

AMBER CLARK
Certified Irrigation Designer
CID
Irrigation Association
78211

DRAWN BY AMC
DATE February 17, 2017

SHEET TITLE
IRRIGATION DETAILS

SHEET NUMBER
IR3-01

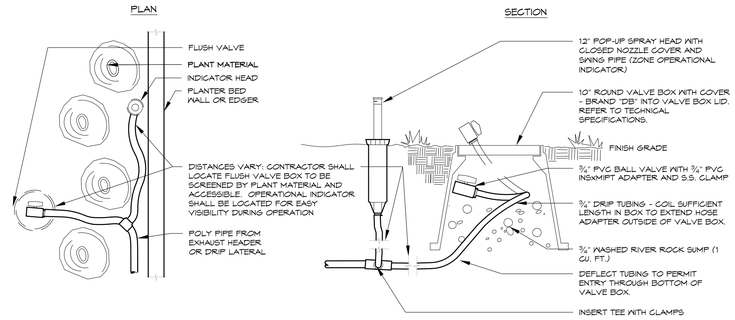


PLANT SIZE	MINIMUM EMITTER QTY. PER TREE
5 GALLON SHRUBS	THREE EACH
1½" CALIPER TREE	EIGHT EACH
2" CALIPER TREE	TWELVE EACH
2½" CALIPER TREE	SIXTEEN EACH
3" CALIPER TREE	TWENTY EACH
3½" CALIPER TREE	TWENTY-TWO EACH
4" CALIPER TREE	TWENTY-FOUR EACH
6 FT. CONIFEROUS TREE	TWELVE EACH
8 FT. CONIFEROUS TREE	EIGHTEEN EACH
10 FT. CONIFEROUS TREE	TWENTY-FOUR EACH
12 FT. CONIFEROUS TREE	TWENTY-EIGHT EACH

NOTES:
- EMITTERS SHALL BE EQUALLY SPACED AROUND ROOT BALL.
- EMITTER FLOW RATE PER SCHEDULE.
- DRIPLINE EMITTER SPACING PER SCHEDULE.

SUBSURFACE EMITTER TREE RING

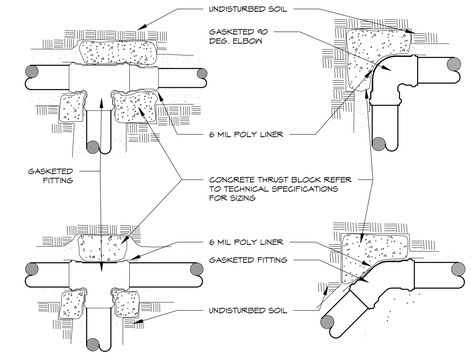
12



DRIP FLUSH VALVE

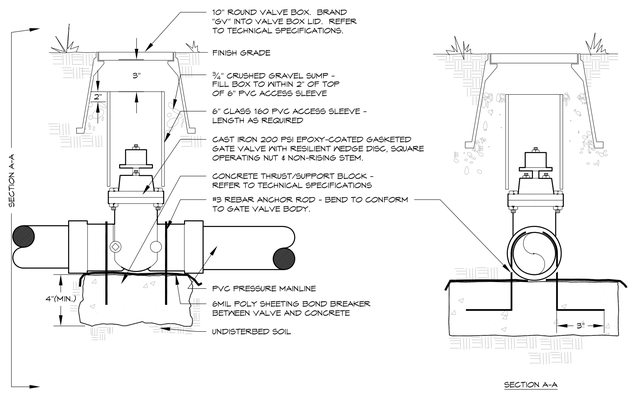
WITH OPERATIONAL INDICATOR

13



THRUST BLOCKS

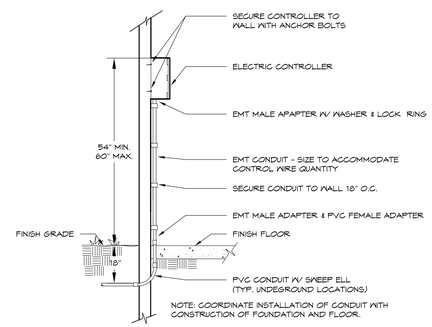
14



GATE VALVE

3" and LARGER

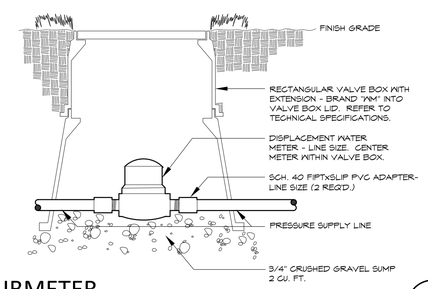
15



ELECTRIC CONTROLLER

INTERIOR WALL MOUNT

16



SUBMETER

17

REFER TO SHEET

IR1-01	IRRIGATION NOTES
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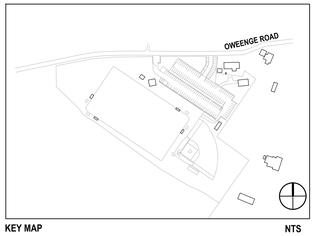

KEY MAP NTS

REVISIONS

ISSUED	DATE	DESCRIPTION

POJOAQUE VALLEY RECREATION COMPLEX - PH 2

SANTA FE COUNTY

62 COUNTY ROAD 84 (OWEENGEE ROAD)
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AMBER CLARK
Certified Irrigation Designer
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78211

DRAWN BY AMC
DATE February 17, 2017
SHEET TITLE
IRRIGATION DETAILS
SHEET NUMBER
IR3-02

S P E C I F I C A T I O N S

POJOAQUE VALLEY RECREATION COMPLEX

Phase 2 - Site Improvements

Santa Fe County

Santa Fe, New Mexico

February 17, 2017

Prepared by

design office
1300 Luisa St. Suite 24
Santa Fe, NM
505.983.1415

CERTIFICATION PAGE

I, Claudia Meyer Horn, ASLA Registered Landscape Architect in the State of New Mexico, License No. 371, certify these documents were prepared directly under my supervision and are true and correct to the best of my knowledge and belief.

CLAUDIA MEYER HORN
Registered Landscape Architect No. 371
State of New Mexico
Design Office
1300 Luisa Street, Suite 24
Santa Fe, NM 87505

SPECIFICATIONS TABLE OF CONTENTS

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01 45 23 Testing and Inspection Services
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DIVISION 2 EXISTING CONDITIONS

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Division 32 EXTERIOR IMPROVEMENTS

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32 31 19 Metal Fences, Gates + Barriers
32 31 29 Wood Fences, Gates + Barriers
32 80 00 Planting Irrigation
32 90 00 Planting
32 91 13 Soil Preparation
32 92 19 Seeding

END OF SECTION

Within the Drawings if inconsistencies are found, written directions/instructions/notes take precedence over graphic illustrations; written dimensions over scaled; and large scale details over small scaled plans or sections. However, Contractor shall promptly bring to the Owner's and Landscape Architect's attention any discrepancies, inconsistencies, or ambiguities within the Drawings, or within the Contract Documents, prior to proceeding with the Work.

END OF SECTION

PART I - CONTRACTS

1.01 GENERAL

A. Work to be done under this contract and in accordance with these Contract Documents consists of providing complete landscape development.

B. The main features of the work include, but are not limited to, the following:

1. Demolition
2. Grading and Drainage
3. Concrete Paving
4. Civil Improvements
5. Fencing and access control
6. Signage
7. Planting
8. Irrigation

PART 2 - OWNER OCCUPANCY

2.01 GENERAL

A. If a portion of the permanent construction has been satisfactorily completed and this portion will be Immediately useful for the Owner to occupy, use, or gain access to other parts of the complex, the Owner may, by written notice, advise the Contractor that the Owner accepts such portion of work.

B. Action by the Owner will in no way affect the obligation of the Contractor under the terms and provisions of the contract with respect to work not completed and accepted.

PART 3 - CONTRACTOR USE OF PREMISES

3.01 GENERAL

A. Owner or his representative shall designate access area to the project site, areas for construction personnel parking and for material and equipment storage as well as locations of temporary office and other construction building.

B. Carry out work in a manner which allows continuous operation of necessary functions of existing parking areas, buildings, recreational fields, and associated circulation areas during recreational league seasons of use.

PART 4 - LABOR AND MATERIALS

4.01 GENERAL

A. Provide complete materials and labor for proper execution and completion of work.

B. Provide order and enforce strict discipline among employees and do not employ a person unskilled or unfit in task assigned to him.

C. Provide completion of work items in proper sequence and order so that no items of construction or installation will be affected by the delay or premature application of another.

D. Provide installation of work in accordance with manufacturer's specifications, when not otherwise specified.

PART 5 - PROJECT COORDINATION

5.01 GENERAL

A. Comply with reasonable instructions of local public agencies and ordinances and codes of local government regarding sign, advertising, traffic, fires, explosives, danger signals and barricades.

B. Notices, demands, requests, instructions, approvals, proposals and claims must be in writing.

C. Papers required to be delivered to Owner shall be delivered to Owner's authorized representative, unless otherwise specified in writing to the Contactor.

D. Inform Owner when required samples and submittals are ready for approval. Owner will require a minimum of five days notice prior to approval trips.

END OF SECTION

PART 1 - GENERAL

1.01 CONTRACT MODIFICATION PROCEDURES

A. Upon the Owner's approval of a proposal from the Contractor, submitted either in response to a Proposal Request issued by the Landscape Architect or as a request for change from the Contractor, the Contractor will issue a Change Order on AIA Document G701, for all changes to the Contract Sum or Contract Time.

B. When the Owner and Contractor disagree on the terms of a proposal, the Landscape Architect may issue a Construction Change Directive on AIA Document G714, instructing the Contractor to proceed with the change. The Construction Change Directive will contain a description of the change, and designate the method to be followed to determine changes to the Contract Sum or Contract Time.

1.02 PAYMENT PROCEDURES

A. For each BID item, the WORK will be measured and paid for on either a unit price basis or on a lump sum basis. The quantities provided on the BID are estimates of the actual quantities of WORK only, and are included solely for determining the probable cost of WORK. The actual quantities of WORK may differ from the BID quantities. The basis of measurement and payment for each unit price BID item will be the actual amount of WORK authorized, completed, and accepted. All labor, equipment, materials, and any incidentals required to complete the WORK will be considered subsidiary to that BID item and will not be measured or paid for separately. The CONTRACTOR agrees to make no claim for damages, loss of anticipated profits, or otherwise, due to differences between the actual WORK quantities and the estimated BID quantities.

B. Payment will be made only for each item included in the BID. No WORK will be paid for that is not completed in accordance with the DRAWINGS and SPECIFICATIONS, and accepted by the ENGINEER. Except as may be otherwise stipulated, no labor, equipment, materials, or any incidentals required to complete the WORK will be furnished by OWNER.

C. The basis of measurement and payment for each BID item is as identified in the BID form. Submit a Schedule of Values which breaks down the Contract Sum into at least one line item for each BID item. Correlate the Schedule of Values with the Contractor's Construction Schedule.

1. Submit Schedule of Values at least 10 days prior to the first Application for Payment.

1.03 TAXES

A. Provide sales and use taxes currently imposed by legislative action and as administered by the local jurisdiction agencies in this bid and contract price.

B. If not required to bear the burden or if a refund is obtained from State sales or use tax, interest or penalty which was to be included in the bid and contract price shall be reduced by the amount. This reduction will be to the benefit of the Owner.

C. Submit 3 copies of each Application for Payment on AIA Document G702/703, in accordance with the schedule established in the Agreement.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

PART I – GENERAL

1.01 SUBSTITUTIONS

A. Base bids upon providing the specific materials, processed products, persons or organizations, etc., identified in this Specification and/or indicated on the Drawings.

B. For a period of thirty (30) consecutive calendar days after the signing of the Contract by the Owner, other fully equal materials will be considered by the Owner. No substitutions will be considered after thirty (30) days.

C. The burden of proof of equality rests with the Contractor, and supporting technical literature, samples, drawings and performance data must be submitted with each request for substitutions.

D. The Owner reserves the right to accept or reject proposed substitutions. Each request shall state the amount of savings to the Owner, if the substitution is approved.

E. Cost of any testing required for analysis of proposed substitution shall be paid for by the Contractor at a testing agency selected and approved by the Owner.

F. Should a substitution be accepted, the Contractor shall be responsible to make all necessary adjustments in the Work which may be affected as a result of the substitution at no additional cost.

G. Should a substitution be accepted and this substitution prove to be defective within the one year guarantee period, the Contractor shall replace the substitute material with that specified and bear the costs incurred thereby.

1.02 PRODUCT SUBSTITUTIONS

A. Contractor's Options

1. For Products specified only by reference standard, select any product meeting that standard.
2. For products specified by naming several products or manufacturer's select any one of the products or manufacturer's named, which complies with the specifications.
3. For Products specified by naming only one Product or manufacturer, Contract must submit a request as for substitutions for any Product or manufacturer not specifically named.
4. For products specified by naming only one Product and manufacturer and indicated as "no substitute", there is no option.

B. Submit a separate request for each Product Substitution, supported with complete data, with drawings and samples as appropriate, including:

1. Comparison of the qualities of the proposed substitution with that specified.
2. Changes required in other elements of the work because of the substitution.
3. Effect on the construction schedule.

4. Cost data comparing the proposed substitution with the Product specified.
5. Any required license fees or royalties.
6. Availability of maintenance service, and source of replacement materials.

C. A request for substitution represents that the Contractor:

1. Has investigated the proposed Product and determined that it is equal to or superior in all respects to that specified.
2. Will provide the same warranties or bonds for the substitution as for the Product specified.
3. Will coordinate the installation of an accepted substitution into the Work, and make such other changes as may be required to make the Work complete in all respects.
4. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.

D. Owner will review requests for substitutions with reasonable promptness, and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

END OF SECTION

PART 1 - PRECONSTRUCTION CONFERENCES

1.01 GENERAL

A. A preconstruction conference will be held prior to beginning of construction, notice of meeting will be sent by Owner to Contractor regarding time and place for the meeting.

PART 2 - PROGRESS MEETINGS

2.01 GENERAL

A. Progress meetings shall be held as directed, with the Contractor, Construction Manager, Owner's Representative, Landscape Architect and Subcontractors whose presence is required, for the purpose of discussing, coordinating and expediting the work.

B. Representatives at the meeting should be qualified to act on behalf of the Contractor or subcontractor they represent.

C. Contractor will be responsible scheduling progress meetings, for keeping minutes of the meeting and distribution of one typed copy of minutes to Owner, Landscape Architect and subcontractors.

PART 3 - JOB SITE ADMINISTRATION

3.01 GENERAL

A. The Owner, its authorized representatives and agents, will be allowed access to and be permitted to observe and review work, materials, equipment, payrolls, personnel records, employment conditions, and material invoices relevant to this Contract.

B. Instructions and approval with respect to work will be given only by the Owner through its authorized agents.

END OF SECTION

PART 1 - GENERAL

1.01 PROJECT MANAGEMENT AND COORDINATION

A. Verify layout information shown on Drawings, in relation to property survey and existing benchmarks, before laying out the Work.

B. Progress meetings will be held at Project site bi-weekly. Owner, Landscape Architect, Contractor, and each subcontractor or other entity concerned with current progress or involved with planning or coordination of future activities, shall attend.

1. Minutes of each meeting will be prepared by Contractor and distributed to Owner, Landscape Architect and all other parties present.

1.02 CONSTRUCTION SCHEDULE

A. Prepare a horizontal bar-chart-type, construction schedule. Provide a separate time bar for each activity and a vertical line to identify the first workday of each week. Use same breakdown of Work indicated in the Schedule of Values. As Work progresses, mark each bar to indicate actual completion.

1. Submit within 10 calendar days of the date established for Commencement of the Work.
2. Prepare the schedule on reproducible media, of width sufficient to show data for the entire construction period.
3. Coordinate each element with other activities. Show each activity in proper sequence. Indicate sequences necessary for completion of related Work.
4. Indicate Substantial Completion and allow time for Landscape Architect's procedures necessary for certifying Substantial Completion.
5. Schedule Distribution: Distribute copies to Owner, Landscape Architect, subcontractors, and parties required to comply with dates.
6. Updating: Revise the schedule after each meeting or activity where revisions have been made.

1.03 SUBMITTAL PROCEDURES

A. Coordinate submittal preparation with construction schedule, fabrication lead-times, other submittals, and other activities that require sequential operations.

1. The Contractor shall submit two (2) sets of the items specified below to the Landscape Architect for review and approval at least seven (7) working days prior to ordering. No material shall be ordered, delivered or any work preceded in the field until the required submittals have been reviewed in its entirety and stamped approved. Delivered material shall match the approved samples.
2. No extension of Contract Time will be authorized due to failure to transmit submittals in time to permit processing sufficiently in advance of when materials are required in the Work.
3. Landscape Architect will not accept submittals from sources other than Contractor.

B. Prepare submittals by placing a permanent label on each for identification. Provide a space on the label or beside title block to record review and approval markings and action taken. Include the following information on the label:

1. Project name.
2. Date.
3. Name and address of Contractor.
4. Name and address of subcontractor or supplier.
5. Number and title of appropriate Specification Section.
6. Contractor's certification that materials comply with specified requirements.

C. Product Data: Mark each copy to show applicable choices and options. Include the following:

1. Data indicating compliance with specified standards and requirements.
2. Notation of coordination requirements.
3. For equipment data, include rated capacities, dimensions, weights, required clearances, and furnished specialties and accessories.

D. Shop Drawings: Submit newly prepared information drawn to scale as outlined in Section 6L. Shop Drawings and Samples of the General Conditions and as indicated herein. Indicate deviations from Contract Documents. Do not reproduce Contract Documents or copy standard information. Submit 1 reproducible print and 1 blue- or black-line print on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 42 inches (762 by 1067 mm). Landscape Architect will return the reproducible print. Include the following:

1. Dimensions, profiles, methods of attachment, coordination with adjoining work, large scale details, and other information, as appropriate for the Work.
2. Identification of products and materials.
3. Notation of coordination requirements.
4. Notation of dimensions established by field measurement.

E. Samples: Submit Samples finished as specified and identical with the material proposed. Where variations are inherent in the material, submit at least 3 units that show limits of the variations. Include product name or name of the manufacturer.

F. Mock-Ups:

1. Mock-ups shall be submitted for major systems and items as required on the Drawings and in the specifications.
2. The mock-ups are to remain in place until the end of the project in an area where they will be protected from any damage, until otherwise directed by the Owner.
3. Mock-up upon approval by the Owner will become the minimum construction quality standard for the system or item throughout the project.
4. The Contractor shall provide corrections or resubmittals of the mock-up until approved by the Owner. Any corrections or resubmittals shall be at no additional cost to the Owner.

G. Landscape Architect will review each submittal, mark as appropriate to indicate action taken, and return copies less those retained. Compliance with specified requirements remains Contractor's responsibility.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

PART 1 - GENERAL

1.01 GENERAL

A. Contractor to employ and pay for services of an independent Testing Laboratory to perform specified testing. Cooperate with laboratory to facilitate execution of required services.

B. Employment of laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.

B. Certification of Products: Respective sections of Specifications.

C. Design of Concrete Mixes: Section 03 30 00.

1.03 QUALIFICATIONS OF LABORATORY

A. Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.

B. Meet basic requirements of ASTM E-329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction."

C. Authorized to operate in the State in which the Project is located.

D. Acceptable to Owner.

E. Testing equipment at reasonable intervals by devices of accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.04 AUTHORITY AND DUTIES OF LABORATORY

A. Cooperate with Owner and Contractor; provide qualified personnel after due notice.

B. Perform specified inspections, sampling and testing of materials and methods of construction.

C. Promptly notify Owner and Contractor of observed irregularities or deficiencies of work or products.

D. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of the Work.
3. Perform any duties of the Contractor.

E. Promptly submit written report of each test and inspection; 4 copies each to Owner and Contractor. Each report shall include:

1. Date issued.
2. Project title and number.
3. Testing laboratory name, address, and telephone number.
4. Name and signature of laboratory inspector.
5. Date and time of sampling and inspection.
6. Record of temperature and weather conditions.
7. Date of test.
8. Identification of product and Specification Section.
9. Location of sample or test in the Project.
10. Type of inspection or test.
11. Results of tests and compliance with Contract Documents.
12. Interpretation of test results that indicate unsatisfactory conditions.

1.05 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel and provide access to Work or to manufacturer's operations.

B. Deliver to laboratory adequate quantities of representative samples of materials proposed for use and which require testing.

C. Provide to laboratory preliminary design mix proposed to be used for concrete and other material mixes which require control by testing laboratory.

D. Notify laboratory sufficiently in advance of operations (minimum of 2 days) to allow for laboratory assignment of personnel and scheduling of tests.

E. Furnish incidental labor and facilities:

1. To provide access to Work to be tested.
2. To obtain and handle samples at Project site or at source of product to be tested.
3. To facilitate inspections and tests.
4. For storage and curing of test samples.

F. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.

G. Employ and pay for services of a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required when initial tests indicate Work does not comply with Contract Documents.

1.06 REFERENCE STANDARDS

A. American Concrete Institute (ACI): 301-73, Specifications for Structural Concrete for Buildings.

B. American Society for Testing and Materials (ASTM) (latest editions):

1. ASTM C31, Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.
2. ASTM C39, Test for Compressive Strength of Cylindrical Concrete Specimens.
3. ASTM C42, Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
4. ASTM C143, Test for Slump of Portland Cement Concrete.
5. ASTM C172, Methods of Fresh Concrete, Sampling.

6. ASTM C231, Test for Air Content of Freshly Mixed Concrete by the Pressure Method.

PART 2 - NOT APPLICABLE

PART 3 - EXECUTION

3.01 CONCRETE CONTROL AND TESTING

A. Secure composite samples in accordance with ASTM C172.

B. Mold and cure 3 specimens from each sample in accordance with ASTM C31.

C. Test specimens in accordance with ASTM C39. Test two specimens at 28 days for acceptance and test one at 7 days for information.

D. Make one set of strength tests (three cylinders) for each 100 cu. yd. or fraction thereof, or each mix design of concrete placed in any one day.

E. Determine slump for each strength test and when consistency of concrete appears to vary in accordance with ASTM C143.

F. Determine total air content of air entrained normal-weight concrete sample for each strength test in accordance with ASTM C231.

G. Determine temperature of concrete sample for each strength test.

H. Control addition of water to concrete at job site and length of time concrete is allowed to remain in truck during placement.

I. Certify each concrete delivery ticket indicating class of concrete delivered, amount of water added and time at which cement and aggregate was discharged into truck, and time at which concrete was discharged from truck.

J. Evaluation and Acceptance

1. Strength level of concrete will be considered satisfactory if 90% of strength test results equal or exceed specified strength and no individual test result is below specified strength by more than 500 psi.
2. Completed concrete work will be accepted when it conforms to requirements of ACI 301, Chapter 18.
3. Where average strength of laboratory control cylinders, as shown by tests for portion of structure, falls below specified minimum ultimate compressive strength, Owner shall have right to require Contractor to provide improved curing, conditions of temperature and moisture to secure required strength.
4. If average strength of laboratory control cylinders fall significantly below design strength and Owner requires drilling concrete core specimens, test specimens in accordance with core procedure or ASTM C42. If results of core tests indicate that strength of structure is inadequate, such replacement, load testing, or strengthening as ordered by Owner shall be provided by Contractor without cost to Owner. If core tests are so ordered, and results of such tests indicate that strength of structure is as required by Contract Documents, cost of tests will

be paid by Contractor.

K. Concrete Test Reports

1. Compile reports and distribute immediately after respective tests or inspections are completed.
2. If reports indicate deviations from Contract Documents, include in report a determination or probable cause of deviation and, where applicable, a recommendation for corrective action.
3. Where a trend of decreasing quality in concrete is determined due to changing seasons, conditions of curing or other cause, notify Owner and Contractor of conditions and submit a recommendation for corrective action to be taken before materials fall below specified quality requirements.

3.02 EARTHWORK

A. Perform Plasticity Index Test on select fill material prior to use to determine compliance with the Contract Documents (ASTM D-424).

B. Perform an in place density test on select fill for each 5,000 square feet of area or fraction thereof for each lift in place (ASTM D-2922).

C. Perform a minimum of 4 density tests per lift under floor slabs on grade.

3.03 CONCRETE WALL AND COLUMN FOOTINGS EXCAVATION

A. Soils testing laboratory shall inspect each concrete wall and column footing excavation to determine that proper bearing stratum is obtained and utilized for bearing and that excavations are properly clean and dry before concrete is placed.

3.04 PREWETTING SUBGRADE SOIL

A. Soils Testing Laboratory shall conduct periodic auger borings to determine soil moisture contents at selected locations and depths (ASTM D-698 or D-1557).

B. Surface construction shall not proceed over prewetted subgrade until desired moisture level is attained throughout the treated area.

C. After moisture content is approved, construction shall proceed so as not to permit a loss in soil moisture content.

3.05 REINFORCING STEEL:

A. If reinforcing steel is purchased direct from a United States mill, manufacturer's approved test sheet will suffice. Steel supplier shall furnish mail certificate reports.

B. If steel is from dealer's stock, perform tension and bending test on three separate samples for each size of bar in every 5 tons of each type of steel as specified in the appropriate ASTM Specification. Contractor shall furnish all material for testing and pay for all such test.

C. Tie-back cables shall be tested same as reinforcing steel.

D. Perform visual inspection prior to placement for size, type and quality of materials.

E. Observe the report on placement of reinforcement, including size, vertical location, horizontal spacing, correctness of bends, splices, clearance between bars and forms, firmness of installation, and security of supports and ties, immediately prior to concreting.

F. Observe and report on placement of embedded items, including size, vertical location, horizontal spacing, correctness of fabrication, and firmness of installation immediately prior to concreting.

3.06 STRUCTURAL CONCRETE CONTROL AND TESTING

A. Secure composite samples in accordance with C172. Each sample shall be obtained from a different batch of concrete on a random basis, avoiding any selection of the test batch other than by a number selected at random before commencement of concrete placement.

B. Concrete with a design strength of 6,000 psi or more shall be tested as follows:

1. Mold and cure six specimens from each sample in accordance with ASTM C31.
2. Two specimens shall be tested at 7 day for information, two shall be tested at 28 days for information, and two shall be tested at 56 days for acceptance. Acceptance tests results shall be the average of the strengths of the two specimens tested at 56 days. Minimum acceptable strength at 28 days for concrete with a design strength of 6,000 psi shall be 5,100 psi (85 percent of the 56 day requirement).

C. Concrete with a design strength less than 6,000 psi shall be tested as follows:

1. Mold and cure four specimens from each sample in accordance with ASTM C31.
2. Two specimens shall be tested at seven days for information and two shall be tested at 28 days for acceptance. Acceptance test results shall be the average of the strengths of the two specimens at 28 days.

D. Any deviations from the requirements of ASTM Specifications shall be recorded in the test report. Test concrete specimens in accordance with ASTM C39.

E. Make at least one strength test (six specimens for all 6,000 psi or above concrete, four specimens for other concrete) for each 100 cu. yd. of fraction thereof, of each mix design of concrete placed in any one day. Determine slump of the concrete sample for each strength test and whenever consistency of concrete appears to vary, in accordance with ASTM C143.

F. Inspect each batch of concrete, adjust amounts of mixing in water to assure uniform consistency from truck to truck. Check mixing time of concrete in trucks.

G. Should strength of concrete fall below the minimum, the additional tests may be required. These tests, if required, shall be made at the Contractor's expense and shall be in accordance with ASTM C42, and ACI 318. If core sample strength tests do not meet strength requirements, then the structure, or any part of the structure shall be removed and replaced at the Contractor's expense.

H. Test reports shall show time test was made, truck ticket number, slump and time of batching, and location of each placement.

I. Report promptly to Owner details of reasons for rejection of quantities of concrete. Give information concerning locations of the concrete pours, quantities, date of pours and other pertinent facts concerning concrete represented by the specimens.

3.7 STRUCTURAL CONCRETE MIX DESIGNS

A. Trial mixtures having portions and consistencies suitable for the work shall be made based on ACI 211.1, using at least three different water-cement ratios which will produce a range of strengths encompassing those required for this Project.

B. Trial mixes shall be designed to produce slump within 3/4 inch of the maximum permitted, and for air-entrained concrete, within .5 percent of maximum allowable air content. The temperature of concrete used in trial batches shall be the maximum temperature specified in the Structural Concrete Section.

C. For each water-cement ratio, at least three compression test cylinders for each testage shall be made and cured in accordance with ASTM C192. Cylinders shall be tested at 7 and 28 days in accordance with ASTM C39. Where the required design strength is 6,000 psi, an additional set of cylinders shall be tested at 56 days in accordance with C39.

D. From the results of the 28 days tests, a curve shall be plotted showing the relationship between the water-cement ratio and compressive strength. From this

curve, the water-cement ratio to be used in the concrete shall be selected to produce the average strength required.

E. The cement content and mixture proportions to be used shall be such that this water-cement ratio is not exceeded when slump is the maximum permitted. Control in the field shall be based upon maintenance of proper cement content, slump and air content.

F. Mix designs furnished by the concrete supplier, accompanied by test data showing an acceptable strength history and certified by the testing laboratory, will be considered as an acceptable alternative to the procedure described in paragraphs A through D above.

1. Temperature of concrete in test data shall be within 5 F. of maximum temperature specified or expected for this project.
2. Strengths indicated in test data shall be in accordance with ACI 318, paragraph 4.3.
3. The specified strength of concrete used in supporting test data shall vary no more than 500 psi plus or minus from that specified for this project.

G. Where fly ash is used in the mix design, fly ash shall comprise no more than 20% by weight of the total cementitious material in the mix.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

A. Standards: Comply with NFPA 241, "Standard for Safeguarding Construction, Alterations, and Demolition Operations"; ANSI A10 Series standards for "Safety Requirements for Construction and Demolition"; and NECA Electrical Design Library's "Temporary Electrical Facilities."

1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70.

B. At the earliest possible time, change over from use of temporary utility services to use of permanent utilities.

C. Remove temporary facilities and controls before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Provide new materials and equipment for construction of temporary facilities and controls.

PART 3 - EXECUTION

3.01 TEMPORARY UTILITIES

A. Provide temporary lighting, fire-protection, and telephone services to project site for use during construction. Arrange for and coordinate service(s) with local utility companies.

1. Contractor shall pay all use charges for temporary utilities.

B. Provide temporary heat for curing or drying of work, and for protection of new construction from adverse effects of low temperatures. Use of gasoline-burning heaters and open-flame heaters is not permitted.

C. Provide temporary sanitary facilities. Comply with regulations and health codes for type, number, location, and maintenance of facilities.

D. Contractor shall have access to existing owner-provided electric power and water.

3.01 TEMPORARY CONSTRUCTION FACILITIES

A. Provide field offices, storage trailers, and other support facilities as necessary for efficient prosecution of the Work.

1. Temporary facilities located within the construction area or within 30 feet (9 m) of building lines shall be of noncombustible construction.

B. Provide temporary enclosures for protection of construction and workers from exposure and inclement weather and for containment of heat.

C. Install project identification and other signs in locations approved by Owner to inform the public and persons seeking entrance to Project.

D. Collect waste daily and dispose of waste off-site according to local ordinances, when containers are full.

1. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material according to applicable laws and regulations.
2. Cost for removal and disposal of construction related waste materials and debris shall be paid by the Contractor.

E. Costs for removal and disposal of construction related waste shall be paid by the Contractor.

3.02 TEMPORARY CONTROLS

A. Provide temporary fire protection until permanent systems supply fire-protection needs.

1. Provide adequate numbers and types of fire extinguishers.
2. Store combustible materials in fire-safe containers in fire-safe locations.
3. Prohibit smoking in hazardous fire-exposure areas.
4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

B. Provide temporary barricades, warning signs, and lights to protect the public and construction personnel from construction hazards.

1. Enclose construction area(s) with fence(s) with lockable entrance gates, to prevent unauthorized access.

C. Provide temporary environmental controls as required by authorities having jurisdiction including, but not limited to, erosion and sediment control, dust control, noise control, and pollution control, Environmental Protection Agency requirements. Contractor shall be responsible for arranging and paying for all activities related to providing temporary environmental controls.

D. Contractor shall be responsible for and pay for all activities related to Environmental Protection Agency environmental control requirements.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

A. Provide products of same kind from a single source.

B. Deliver, store, and handle products according to manufacturer's written instructions, using means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage and to prevent overcrowding construction spaces.
2. Deliver in manufacturer's original sealed packaging with labels and written instructions for handling, storing, protecting, and installing.
3. Inspect to ensure compliance with the Contract Documents and to ensure items are undamaged and properly protected.
4. Store heavy items in a manner that will not endanger supporting construction.
5. Store items subject to damage aboveground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required.

PART 2 - PRODUCTS

2.01 PRODUCT OPTIONS

A. Provide items that comply with the Contract Documents, are undamaged, and are new at the time of installation.

1. Provide products and equipment complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.

B. Do not attach manufacturer's labels or trademarks, except for required nameplates, on surfaces exposed to view in occupied spaces or on the exterior.

C. Select products as follows:

1. Where these Specifications name only a single product or manufacturer, provide the item indicated. No substitutions will be permitted.
2. Where these Specifications name two (2) or more products or manufacturers, provide one (1) of the items indicated. No substitutions will be permitted.
3. Where products or manufacturers are specified by name, accompanied by the term "or equal," comply with provisions concerning "product substitutions" to obtain approval for use of an unnamed product or manufacturer.
4. Where these Specifications describe a product and list characteristics required, with or without naming a brand or trademark, provide a product that complies with the characteristics and other requirements.
5. Where these Specifications require compliance with performance requirements, provide products that comply and are recommended in writing by the manufacturer for the application.
6. Where these Specifications require compliance with codes, regulations, or reference standards, select a product that complies with the codes, regulations, or reference standards.

D. Unless otherwise indicated, Landscape Architect will select color, pattern, and texture of any product from manufacturer's full range of options.

2.02 PRODUCT SUBSTITUTIONS

A. Reasonable and timely requests for substitutions will be considered. Substitutions include changes proposed by the Contractor after award of the Contract, in products and methods of construction required by the Contract Documents.

1. Do not submit unapproved substitutions on Shop drawings.

B. Submit two (2) copies of each request for product substitution. Identify product to be replaced, provide complete documentation showing compliance of proposed substitution with all specified requirements, and include the following:

1. A full comparison with the specified product.
2. A list of changes to other Work required to accommodate the substitution.
3. Any proposed changes in the Contract Sum or Contract Time should the substitution be accepted.

C. Landscape Architect will review the proposed substitution and notify Contractor of its acceptance or rejection.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

PART 1 - GENERAL

1.01 CLOSEOUT SUBMITTALS

A. Record Drawings: Maintain a set of Contract Drawings as Record Drawings. Mark to show installation that varies from the Work originally shown.

B. Record Specifications: Maintain one (1) copy of the Project Manual, including addenda, as Record Specifications. Mark to show variations in Work performed in comparison with the text of the Specifications and modifications.

C. Operation and Maintenance Data: Organize data into 3-ring binders, with pocket folders for folded sheet information. Mark identification on front and spine of each binder. Include the following:

1. Emergency instructions.
2. Spare parts list.
3. Copies of warranties.
4. Wiring diagrams.
5. Shop Drawings and Product Data.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Examine substrates and conditions for compliance with manufacturer's written requirements Including, but not limited to, surfaces that are sound, level, and plumb; substrates within installation tolerances; surfaces that are smooth, clean, and free of deleterious substances; and application conditions within environmental limits. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Prepare substrates and adjoining surfaces according to manufacturer's written instructions, including, but not limited to, the application of fillers and primers.

3.02 CUTTING AND PATCHING

A. Do not cut structural members without prior written approval of Landscape Architect.

B. For patching, provide materials whose installed performance will equal or surpass that of existing materials. For exposed surfaces, provide or finish materials to visually match existing adjacent surfaces to the fullest extent possible.

3.03 INSTALLATION

A. Comply with manufacturer's written instructions for installation. Anchor each product securely in place, accurately located and aligned. Clean exposed surfaces and protect from damage. If applicable, prepare surfaces for field finishing.

B. Comply with NFPA 70 for installation of electrically operated equipment and electrical components and materials.

3.04 FINAL CLEANING

A. Clean each surface or item as follows before requesting inspection for certification of Substantial Completion:

1. Remove labels that are not permanent.
2. Clean transparent materials, including mirrors. Remove excess glazing compounds. Replace chipped or broken glass.
3. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Leave concrete floors broom clean.
4. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean plumbing fixtures. Clean light fixtures and lamps.
5. Clean the site. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds to a smooth, even-textured surface. Remove weeds.

3.05 CLOSEOUT PROCEDURES

A. Request Substantial Completion inspection once the following are complete:

1. Advise Owner of pending insurance changeover requirements.
2. Submit Record Drawings and Specifications, maintenance manuals, warranties, and similar record information.
3. Deliver spare parts, extra stock, and similar items.
4. Changeover locks and transmit keys to Owner.
5. Complete startup testing of systems and instructions of operation and maintenance to personnel.
6. Remove temporary facilities and controls.
7. Complete final cleanup.
8. Touch up, repair, and restore marred, exposed finishes.
9. Obtain final inspections from authorities having jurisdiction.
10. Obtain certificate of occupancy.

B. Upon receipt of a request for inspection, Landscape Architect will proceed with inspection or advise Contractor of unfilled requirements. Landscape Architect will prepare the Certificate of Substantial Completion after inspection or advise Contractor of items that must be completed or corrected before the certificate will be issued.

C. Arrange for each installer of equipment that requires operation and maintenance to provide instruction to Owner's personnel. Include a detailed review of the following:

1. Startup and shutdown.
2. Emergency operations and safety procedures.
3. Noise and vibration adjustments.
4. Maintenance manuals.
5. Spare parts, tools, and materials.
6. Lubricants and fuels.
7. Identification systems.
8. Control sequences.

9. Hazards.
10. Warranties and bonds.

D. Request inspection for certification of final acceptance and final payment, once the following are complete:

1. Submit final payment request with releases of liens and supporting documentation. Include insurance certificates.
2. Submit a copy of the Substantial Completion inspection list stating that each item has been completed or otherwise resolved for acceptance.
3. Submit final meter readings for utilities, a record of stored fuel, and similar data as of the date of Substantial Completion.
4. Submit consent of surety to final payment.

E. Landscape Architect will re-inspect the Work on receipt of notice that the Work has been completed.

1. On completion of re-inspection, Landscape Architect will prepare a certificate of final acceptance. If the Work is incomplete, Landscape Architect will advise Contractor of the Work that is incomplete or obligations that have not yet been fulfilled.

END OF SECTION

PART 1 - GENERAL

1.01 INTRODUCTION

A. This work shall consist of selective demolition, clearing and grubbing, grading, irrigation pipe installation, concrete, base course, sub-grade preparation, testing, fencing, permanent signing and striping, planting, and overall project coordination and project scheduling required by the construction documents for this project.

PART 2 – TECHNICAL SPECIFICATIONS

2.01 GENERAL

A. For all site work the "New Mexico APWA Standard Specifications", Latest Edition, are hereby incorporated by reference, the same as if fully written herein and shall govern this project except where revised, amended, or supplemented by the construction plans, or superseded by the specifications and contract documents.

B. All work shall be paid for by unit price per quantity for base bid and any selected alternative. All work as part of additions or deletions shall be paid for or deducted as per Contractor submitted unit cost per item.

PART 3 – NPDES PERMITTING

3.01 GENERAL

A. This item will be paid on a Unit Price basis for the entire project. This includes excavation for temporary sediment basins, straw bales, silt fence, temporary gravel construction entrance/exit installed prior to any construction and removed at completion of project, use of temporary earth swales, implementation of the Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section 603 of the New Mexico Department of Transportation 2005 Interim Specifications and as amended by the Supplemental Technical Specifications Section 603 and all other materials and equipment required to complete erosion control plan and SWPPP.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Work Included: Perform all site demolition work complete, as shown, and as specified.

1.02 REFERENCES

A. ASTM - American Society for Testing and Materials.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements: Demolish existing site improvements as indicated on the Drawings, in an orderly and careful manner. Comply with local codes and ordinances.

B. Equipment: Use equipment specifically designed for the demolition of each type of material.

C. Labor: Employ workmen skilled in the use of the equipment being utilized for demolition.

1.04 DELIVERY, STORAGE, AND DISPOSAL

A. Delivery and Storage: Do not deliver to the job site nor store thereon demolition equipment and materials prior to receiving written notice to proceed. Confine storage to areas designated by Owner.

B. Disposal: Legally dispose off site products of demolition during or at end of each day's work. Contractor to coordinate with Owner which site demolition items will be salvaged and disposed of or relocated. Contractor to pay all removal and disposal costs.

1.05 PROJECT/SITE CONDITIONS

A. Existing Conditions: Inspect site prior to commencing work. Determine scope of applicable site conditions.

B. Access and Testing: Make test excavations and borings required to determine existing conditions, subject to Owner's convenience.

C. Acceptance: Commencing work constitutes Contractor's acceptance of site conditions, both surface and subsurface. No extra payment shall accrue to Contractor by virtue of unknown conditions or difficulties of performing this demolition work.

1.06 PROTECTION

A. Protection of Existing Site Improvements:

1. References: Verify and maintain benchmarks, monuments and other reference points. Replace if disturbed or destroyed.
2. Protection: Protect existing improvements noted to remain within designated limits of work. Supply shoring, bracing, reinforcing and barricades required.
3. Utilities: Keep in operation existing utility circuits and piping to remain including sprinkler irrigation except at the direction of the Owner's Representative. Provide 48 hour notice of

interruption of service. Notify Owner's Representative should utilities not shown on drawings can be found during demolition.

4. Repair: If damage to site improvements to remain occurs during the course of the work, restore to the satisfaction of the Owner at no additional cost.

PART 3 - EXECUTION

3.01 PREPARATION

A. Verification: Verify with Owner items to be removed, salvaged or to remain prior to commencement of work.

B. Compliance: Proceed with demolition in an orderly and careful manner, in compliance with local codes and ordinances.

C. Utilities:

1. Capping: Disconnecting and capping of utilities must be in accordance with the regulations of the utility company affected.
2. Removal: Removal of buried pipes or conduits is not required if such pipes or conduits lay a minimum of 24 in. below the work required under other Sections of this contract.

D. Paving and Walls:

1. General: Remove completely concrete slabs and asphalt paving, foundations, metal supports, walks and paving including and connected equipment. Aggregate base may be reused or remain if it meets the subgrade specifications for the proposed finish, otherwise remove.
2. Sawcutting: Accurately and cleanly sawcut existing concrete and asphalt paving as shown on Drawings. Confine cuts to areas shown. Avoid damage to adjacent improvements.
3. Footings: Excavate as required to remove complete footing. Backfill excavation and compact to 95 percent density.
4. Finishing: Rough grade excavated areas as necessary to achieve the final line and grade as called for in other Sections of this work. Compact to the density of the surrounding area. The final surface shall be smooth, even and tight, free from loose or soft areas.

E. Subgrade: Fill depressions made by demolition and restore excavated areas to a smooth and even grade. Compact to the density of the surrounding soil or as needed to meet specification for proposed finish condition.

3.03 DE-WATERING

A. General: Provide and operate equipment and do ditching and pumping necessary to keep the project area free from water.

B. Storm Water: Pump off storm runoff or other water until such time as new work in other Sections shall effectively remove such water.

C. Disposal of Water: Take measures required to dispose of surface and subsurface water in compliance with municipal requirements.

3.04 SALVAGE

A. Contractor is to remove items “to be salvaged” in a manner that maintains the integrity of the item for reuse by the Owner.

B. Contractor to clean items “to be salvaged” for future reuse to Owner’s satisfaction.

C. All items marked as “to be salvaged” are to be delivered to a location as directed by Owner. Transport in safe, legal manner.

END OF SECTION

PART 1- GENERAL

1.01 SUMMARY:

A. WORK INCLUDED:

1. The work of this section consists of constructing universally accessible crusher fines paving on a prepared subgrade.

B. RELATED WORK:
1. Section 32 22 16 Fine Grading

1.02 DEFINITIONS:

1.03 SUBMITTALS:

A. SUBMITTAL PROCEDURE: Submit samples and detailed technical data of products proposed for use for Owner's approval according to Section 01 33 00 Submittal Procedures

B. PRODUCT DATA: Submit sieve analysis of proposed material to ensure it meets grading requirements. Sieve analysis and color of crushed aggregate screenings shall be approved in writing by the Landscape Architect before any material is delivered to the project site.

C. SAMPLES: Submit sample of crushed aggregate screenings for approval to ensure color will be compatible with project site. Sample shall be sufficiently large to illustrate clearly the functional characteristics, and full range of color and texture of the material.

1.04 PROJECT CONDITIONS: Use lightweight hauling equipment. Exercise care in using equipment, avoiding damage to adjacent plant and tree growth, and adjacent site improvements.

PART 2 - PRODUCTS

2.01 CRUSHED AGGREGATE SCREENINGS:

A. Clean, hard, durable particles or fragments of 1/4" minus select crushed Santa Fe Brown crusher fines. Fines shall be evenly mixed throughout the aggregate. When produced from gravel, 50 percent, by weight, of the material retained on a No. 4 sieve shall have one fractured face. Color to be approved by Landscape Architect.

B. The portion retained on the No. 4 sieve shall have a maximum percentage of wear of 50 at 500 revolutions as determined by AASHTO T96-77.

C. The portion passing a No. 40 sieve shall have a maximum liquid limit of 25 and a maximum plasticity index of 7, as determined by AASHTO T89-81 and AASHTO T90-81, respectively.

D. The crushed aggregate screenings shall be free from clay lumps, vegetable matter, and deleterious material.

2.02 GRADING REQUIREMENTS:

Percentage of Weight Passing a Square Mesh Sieve
AASHTO T11-82 and T27-82

Sieve Designation	Percentage Passing	Sieve Designation	Passing
3/8-inch	100	No. 30	40-50
No. 4	95-100	No. 50	25-35
No. 8	75-80	No. 100	20-25
No. 16	55-65	No. 200	5-15

PART 3 – EXECUTION

3.01 SITE CLEARING: Refer to Section 02 41 00

3.02 GROUND SURFACE PREPARATION: Strip existing soil as needed within the designated crusher fines paving areas as shown on drawings to allow 4" lay of crusher fines paving.

3.03 SUBGRADE PREPARATION: Prior to placing crushed aggregate screenings, shape, fill, grade, and compact the subgrade.

3.04 PLACING CRUSHED AGGREGATE SCREENINGS: After pre-blending, place the crusher fines paving on prepared subgrade and rake smooth to desired grade and cross section. Place to avoid segregation, in one layer of 4 inches minimum thickness. Do not apply crusher fines paving deeper than 4 inches in one lift. Ex: For a 6 inch thickness, apply crusher fines paving in two 3 inch lifts.

3.05 WATERING: Water heavily to achieve full depth moisture penetration of the crusher fines paving. Watering is best accomplished using a spray nozzle set to a coarse spray; pressure should not disturb the leveled surface. Apply to achieve full depth moisture penetration without causing over-saturation of the mix. Test for depth of water penetration by random inspection of paving cores. After inspection, fill core holes with material removed, smooth and hand tamp to match adjoining trail surface grade. Let watered mix stand 6-24 hours until surface water is no longer present; the mix should then be moist but not wet.

3.06 COMPACTION: While the crusher fines paving is still thoroughly moist, roll with a heavy lawn roller (minimum 225 pounds and maximum 30 inch width), to achieve finish grade and initial compaction. Hand tamp edges around curbs, benches, signposts, etc. Use a heavy (1 ton minimum) small rider, after having initially used the lawn roller, to obtain the desired final dense, smooth, uniform texture. Keep compacter 5 ft. away from newly planted trees. Do not use wackers or vibratory rollers.

3.07 INSPECTION:

A. Finished surface shall be smooth, uniform and solid, with no evidence of chipping or cracking. Dried, compacted material shall be firm all the way through with no spongy areas. Loose material shall not be present on the surface initially. At the 11 month inspection, a minor amount of loose material is expected on the surface.

B. Any significant irregularities shall be smoothed out prior to final acceptance of the work. Smoothing shall be accomplished by rewetting/saturating rough areas thoroughly, and then rolling the surface again with a heavy roller (1000-1500 lbs powered walk-behind or small rider). Wackers are not recommended.

C. Final thickness of completed paving shall not vary more than 1/2 inch from dimension indicated. Measurements may be taken by means of test holes taken at random in finished surface. Correct any variations in the thickness beyond the allowable 1/2 inch by repeating the procedures listed under Sections 3.04-3.06 above.

D. Final width of completed paving shall not vary more that 1/2 inch form typical dimensions indicated. Measurements may be taken at random cross sections in the finished surface.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. This section shall consist of furnishing and installing new gates and barriers in conformance with the lines and grades and requirements shown on the drawings.

B. Section Includes:
1. Maintenance Access Gate
2. Bollard – Fixed
3. Reflective Tape
4. Knox Padlock

1.02 SUBMITTALS

A. Submittal Procedure: Submit samples and detailed technical data of products proposed for use for Owner's approval according to Section 01 33 00 Submittal Procedures
B. Product Data: For each type of product indicated above.
C. Samples: For each material and color specified.
D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for decorative metallic-coated steel tubular gates, including finish, indicating compliance with referenced standard.

1.03 QUALITY ASSURANCE

A. Emergency Access Requirements: Comply with requirements of authorities having jurisdiction for gates that must provide emergency access.

1.04 SEQUENCING AND SCHEDULING

A. Acceptance: Do not install fencing, gates, and barriers prior to acceptance by Landscape Architect of area to receive such materials.
B. Coordination: Coordinate with the work of other sections to insure the following sequence of construction.
1. Fence, Gate Posts, and Bollards: Set anchors or sleeves in place and pour footings prior to installation of adjacent paving.
2. Shop Fabricated Items: Install anchors, bolts and fittings in appropriate formwork prior to installation of adjacent paving or walls.

PART 2 – PRODUCTS

2.01 PRODUCTS

A. Products are listed in this section to establish requirements for product type, characteristics, performance, and quality:

1. MAINTENANCE ACCESS GATE
   Gate Depot
   17526 Highway 12
   Sonoma, CA 95476
   www.gatedepot.com
   phone: 1-888-818-4283

   Model: DuraGate Steel Barrier Gate Kit with Pivot Post, Lock Post and Lock Assembly (or approved equal)
   Model #: DGT-BR
   Gate Size: 14ft. opening, 3.15" OD x 4mm round tubular steel
   Post Size: 3.15" OD schedule 40 round tubular steel
   Finish: Galvanized
   Miscellaneous: 180 degree swing
   Lock: provided by owner
   Quantity: 2

2. BOLLARD - FIXED
   Creative Pipe (or approved equal)
   PO Box 2458, Rancho Mirage, CA 92270-1087
   Phone (760) 340-5555
   Fax (760) 340-5883
   www.creativepipe.com
   sales@creativepipe.com

   Model: CBR-6-E-P-DT, 6” round bollard pipe, flat top
   Finish: Metallic silver, polyester powder coated
   Mounting: Embedded
   Quantity: 16

3. REFLECTIVE TAPE
   R.S. Hughes (or approved equal)
   6100-B Jefferson NE, Albuquerque, NM 87109
   Phone (505) 344-6310
   Fax (505) 344-8263
   Email: albuquerque@rshughes.com

   Brand: 3M
   Model: 963-10
   Color: White
   Backing Material: Synthetic Resin
   Application: Vehicle
   Width: 2 in
   Length: 50 yd
   Standards Met: DOT; FMVSS 108
   Quantity: 1

4. KNOX PADLOCK
   Knox Company (no substitutions)
   1601 W. Deer Valley Road

Phoenix, AZ 85027
Phone (800) 552-5669
Phone (623) 687-2300
Fax (623) 687-2299
www.knoxbox.com
Email: info@knoxbox.com

Model: Heavy Duty 3770 Exterior Use Padlock
Color: Orange
Quantity: 4

2.02 STEEL AND IRON

A. Plates, Shapes, and Bars: ASTM A 36/A 36M.
B. Bars (Pickets): Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.
C. Tubing: ASTM A 500, cold formed steel tubing.
D. Bar Grating: NAAMM MBG 531.
E. Bars: Hot-rolled steel strip, ASTM A 1011/A 1011M, Commercial Steel, Type B.
F. Wire Rods: ASTM A 510 (ASTM A 510M).
G. First option in first paragraph below is specified for industrial and light-industrial (commercial) fences in ASTM F 2408; second option is specified for residential fences.
H. Galvanized-Steel Sheet: ASTM A 653/A 653M, structural quality, Grade 50 (Grade 340), with

2.03 COATING MATERIALS

A. See plans; Powdercoated, see product for color information.

2.04 MISCELLANEOUS MATERIALS

A. Concrete: Normal-weight concrete complying with requirements in section 03 30 00 Cast-in-Place Concrete with a minimum 28-day compressive strength of 3000 psi (20 MPa), 3-inch (75-mm) slump, and 1-inch (25-mm) maximum aggregate size.

B. Nonshrink Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107 and specifically recommended by manufacturer for exterior applications.

2.05 GROUNDING MATERIALS

A. Grounding Conductors: Bare, solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.
   1. Material above Finished Grade: Aluminum.
   2. Material on or below Finished Grade: Copper.

B. Grounding Connectors and Grounding Rods: Comply with UL 467.

2.06 STEEL FINISHES

A. Surface Preparation: Clean surfaces according to SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
   1. After cleaning, apply a conversion coating suited to the organic coating to be applied over it.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Locations: Verify that site furnishings can be installed at locations as shown on Drawings.

B. Conditions: Verify that no defects or errors exist in the work of other sections which would lead to defective installation or latent defects in workmanship and function of items in this section. Notify architect of unsatisfactory conditions. Do not proceed with installation until unsatisfactory conditions are corrected.

3.02 PREPARATION

A. Protection:
   1. Protect adjacent planting and site improvements to prevent damage during installation.

B. Concrete Pads and Footings:
   1. Layout: Accurately lay out pads and footings as called for in the Drawings.
   2. Installation: Excavate form as required and fill for pads and footings as specified in Site Concrete - Section.

3.03 INSTALLATION

A. Execution: Install as per manufacturer's specifications. Install elements level, plumb, square, accurately aligned, correctly located, and secure for full opening without interference. Install ground-set items in concrete for anchorage. Attach hardware using tamper-resistant or concealed means. Adjust hardware for smooth operation and lubricate where necessary.

B. Application: Apply reflective tape to steel elements as per manufacturer's specifications. Finish application to be straight and free of warps, bumps, and tears.

C. Repair: Repair minor damages to finish in accordance with instructions and as approved by Architect. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

3.04 CLEANING

A. Clean fences, gates, and barriers in accordance with manufacturer's instructions. Do not use harsh cleaning materials that would damage finish.

B. Remove temporary protective coverings.

3.05 FIELD QUALITY CONTROL

A. Water Fountains and Fire Pit: Test moving parts and controls for conformance to manufacturer's operating specifications.

3.06 DEMONSTRATION

A. Demonstrate the operation and maintenance of equipment to the Owner. Submit final copy of maintenance manuals at this time of demonstration. For manuals, see Submittals.

3.07 PROTECTION

A. Protect installed site furnishings from damage during construction.

B. Wrappings: Do not remove protective wrappings from furnishings until instructed by Landscape Architect. Remove trash and debris after completion.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

B. This section shall consist of furnishing and installing new fence and/or removing and salvaging existing fence and restoring the same in conformance with the lines and grades and requirements shown on the drawings. Wherever the materials to be removed are not in good condition, as judged by the Architect, or wherever the Contractor has damaged the materials during the process of removal, equal or better quality fencing materials than the existing shall be furnished and installed by the Contractor.

C. Section Includes:
1. Post and Cable Fence
2. Wood Privacy Fence – Steel Frame
3. Wood Privacy Fence – Double Leaf Vehicular Gate

1.02 REFERENCES

A. The following is a list of standards that may be referenced in this section:
1. American Association of State Highway and Transportation Officials (AASHTO):
   a. M111M/M111, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
   b. M133, Standard Specification for Preservatives and Pressure Treatment Processes for Timber.
   c. M181, Standard Specification for Chain-Link Fence.
   d. M232M/M232, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
   e. M281, Standard Specification for Steel Fence Posts and Assemblies, Hot- Wrought.
2. ASTM International (ASTM):
   a. A116, Standard Specification for Metallic-Coated, Steel-Woven Wire Fence Fabric.
   b. A121, Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
   c. A392, Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
   d. A491, Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
   e. B211, Standard Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire.
   f. F537, Standard Specification for Design, Fabrication, and Installation of Fences Constructed of Wood and Related Materials.
3. Federal Specification (FED): FCGS-02-1, Fencing, Wire and Post, Metal (Chain-link Fence Posts, Top Rails and Braces).

1.03 SUBMITTALS

A. Submittal Procedure: Submit samples and detailed technical data of products proposed for use for Owner's approval according to Section 01 33 00 Submittal Procedures

B. Product Data: For each type of product indicated above.

C. Shop Drawings: Submit shop drawings for Double Leaf Vehicular Gate frame, post, wood cladding, and adjacent fencing. Indicate plan layout, size and spacing of components, frame dimensions, bracing, accessories, fittings, anchorage, and post section.

D. Samples: For each fence material and for each color specified.

E. Hardware: Submit hardware list and cutsheets for each type for final approval.

1.04 QUALITY ASSURANCE

A. Emergency Access Requirements: Comply with requirements of authorities having jurisdiction for gates that must provide emergency access.

1.05 SEQUENCING AND SCHEDULING

A. Acceptance: Do not install fencing prior to acceptance by Landscape Architect of area to receive such materials.

B. Coordination: Coordinate with the work of other sections to insure the following sequence of construction.
   1. Fence and Gate Posts: Set anchors or sleeves in place and pour footings prior to installation of adjacent paving.

PART 2 – PRODUCTS

2.01 GENERAL

A. All wood materials shall be treated wood or kiln-dried western red cedar wood with a natural resistance to decay. Materials shall be free from loose knots, cracks and other imperfections that would weaken the material or otherwise cause them to be structurally unsuitable for the purpose intended.
B. No additives, stains, paints or other chemicals may be used in manufacturing. Fencing shall not be sourced illegally or harvested without authorization from appropriate government agencies.
C. All fasteners used for construction shall be stainless steel wood screws.
D. Dual access (accessible and lockable from either side) latch and lock systems are required on all vehicular maintenance access gates.

2.02 MATERIALS

A. Post + Cable Fence:
   1. Hardware: see detail.
   2. Posts: match existing, assumed to be 6-inch x 8-inch x 5-foot post, ACQ Pressure Treated Douglas Fir Timber, Standard Grade or Better, S4S finish.

B. Wood Privacy Fence – Steel Frame
   1. Corner, Line, End Posts: 2-3/8-inch diameter schedule 40 steel pipe, galvanized.

2. Fence Hardware:
   Steel to Wood Bracket: WAP-238, Galvanized Finish, Item #: 50100, OZCO Building Products (or approved equal)
   Screws: Stainless Steel Wood Screws.
3. Pickets: 1-inch x 6-inch x 8-foot western red cedar picket, #1 grade, flat top.
4. Bottom and Top Rail: Minimum 2-inch x 4-inch x 8-foot western red cedar stud, rough cut, clear grade.
5. Cap: Minimum 2-inch x 8-inch x 8-foot western red cedar stud, #1 grade.
6. Trim: Minimum 1-inch x 4-inch x 8-foot western red cedar board, #1 grade.

C. Wood Privacy Fence – Double Leaf Vehicular Gate
1. Vehicular Gates: 2 – 14' wide clear opening
2. Gate Posts: 3-1/2-inch diameter schedule 40 steel pipe, galvanized.
3. Gate Frame: 2" square tubing frame with 1 additional vertical support and two additional horizontal supports, galvanized finish.
4. Gate Hardware:
   Hinge: 7" Barrel Hinge, industrial weight, black.
   Cane Bolt: 36-inch cane bolt, 7/8-inch diameter with keep, galvanized.
   Latch: Armor Latch NW6244, Gate Thickness: 2.75", Black
   Screws: Stainless Steel Wood Screws
5. Pickets: 1-inch x 6-inch x 8-foot western red cedar picket, #1 grade, flat top.
6. Cap: Minimum 2-inch x 6-inch x 8-foot western red cedar stud, #1 grade.
7. Trim: Minimum 1-inch x 4-inch x 8-foot western red cedar board, #1 grade.

2.03 CEMENT:

A. Concrete: Normal-weight concrete complying with requirements in Division 3 Section "Cast-in-Place Concrete" with a minimum 28-day compressive strength of 3000 psi (20 MPa), 3-inch (75-mm) slump, and 1-inch (25-mm) maximum aggregate size.

PART 3 - EXECUTION

3.01 REMOVAL OF EXISTING FENCE

A. All broken, warped, or out of plumb posts, rails, pickets and other fence components shall be removed and disposed of or salvaged by the Contractor to allow construction of the project as described on the drawings.

3.02 FENCE INSTALLATION

A. General:
1. Contractor shall perform such clearing and grubbing as may be necessary to construct or replace the fence to the required grade and alignment as shown on the Drawings.
2. Follow all applicable blue stakes procedures.
3. Fence alignment shall be located on Owner's property, unless agreed to in writing by adjacent private property owner.
4. At locations where breaks in a run of fencing are required, appropriate adjustments in fence alignment and/or post spacing shall be made to satisfy requirements or conditions encountered.
5. Install as per plans, details, and manufacturer's specifications.

B. Posts shall be set true to line and grade. Posts shall be securely embedded into the ground to meet the proper alignment and elevations.

C. The maximum distance between posts in any section shall not exceed eight (8) feet, unless otherwise indicated on the drawings. The top and bottom railings shall be securely fastened to the posts with stainless steel nails or other acceptable means. Changes in line of 30 degrees or more shall be considered as corners.

D. Fence corner posts, end posts, gate posts, and every sixth line post shall be placed in 1' diameter concrete footing. Posts and rails shall be held improper positions by secure bracing until such time as the concrete as set sufficiently to hold the posts. Materials shall not be installed on posts, or stress placed on bracing until the concrete has set sufficiently to withstand the stress. The complete fence shall be plumb and in straight alignment as shown on the drawings or as directed by the Landscape Architect.

E. Fence slats shall be placed on the roadway side of posts unless otherwise specified. The slats shall be placed approximately 2" above the ground and on a straight grade between posts by excavating high points of the ground. Filling depressions will be permitted only upon approval of the Architect. The slats shall be sound and free from all major decay or defects that would weaken or otherwise cause them unsuitable for fence slats. Fastening to top, bottom, and other railings shall be done with two stainless steel wood screws at each juncture.

F. Horizontal components to be installed straight and taut. Wire rope components to be securely fastened with no greater than ½" sag between supports.

3.03 GATE INSTALLATION

A. General:
1. Gate location shall be approved by Landscape Architect prior to installation.
2. Install gates plumb, level, and secure for full opening without interference.
3. Install ground-set items in concrete for anchorage as recommended by the fence manufacturer. Adjust hardware for smooth operation.
4. Install as per plans, details, and manufacturer's specifications.

B. Once gate is installed, coordinate with Owner's Representative on lock installation.

END OF SECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

Work of this Section generally includes provisions for the installation of an underground landscape irrigation system including the following:

A. Static pressure verification and coordination of irrigation system installation with landscape material installation.

B. Trenching, stockpiling excavation materials, refilling and compacting trenches.

C. Complete irrigation system including but not limited to piping, backflow preventer assemblies, valves, fittings, heads, controllers and wiring, and final adjustments to insure complete coverage.

D. Water connections.

E. Replacement of unsatisfactory materials.

F. Clean-up, Consultant Reviews, and Project Acceptance.

G. Tests.

1.02 REFERENCES

A. Perform Work in accordance with requirements of Conditions of the Contract and Division 01 - General requirements as well as provisions of all applicable laws, codes, ordinances, rules, and regulations.

B. Conform to requirements of reference information listed below except where more stringent requirements are shown or specified in Contract Documents.
   1. American Society for Testing and Materials (ASTM) - Specifications and Test Methods specifically referenced in this Section.
   2. Underwriters Laboratories (UL) - UL Wires and Cables.
   3. National Sanitation Foundation (NSF) – Piping and Backflow prevention.
   4. American Water Works Association - Piping and Backflow prevention.

1.03 QUALITY ASSURANCE

A. Installer Qualifications - Installer shall have had considerable experience and demonstrate ability in the installation of irrigation system(s) of specific type(s) in a neat, orderly, and responsible manner in accordance with recognized standards of workmanship. To demonstrate ability and experience necessary for this Project, and financial stability, submit if requested by Consultant, prior to contract award the following:
   1. List of 3 projects completed in the last 2 years of similar complexity to this Project. Description of projects shall include:
      a. Name of project.
      b. Location.
      c. Owner.
      d. Brief description of work and project budget.

B. Special Requirements:
   1. Work involving substantial plumbing for installation of copper piping, backflow preventer(s), and related work shall be executed by licensed and bonded plumber(s). Secure a permit at least 48 hours prior to start of installation.

2. Tolerances - Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, compaction, and repair of finish grade treatment.
3. Coordination with Other Contractors - Protect, maintain, and coordinate Work with Work under other Section.
4. Damage To Other Improvements - Contractor shall replace or repair damage to grading, soil preparation, seeding, sodding, or planting done under other Sections during Work associated with installation of irrigation system at no additional cost to Owner.

C. Pre-Construction Conference - Contractor shall schedule and conduct a conference to review in detail quality control and construction requirements for equipment, materials, and systems used to perform the Work. Conference shall be scheduled not less than 10 days prior to commencement of Work. All parties required to be in attendance shall be notified no later than 7 days prior to date of conference. Contractor shall notify qualified representatives of each party concerned with that portion of Work to attend conference, including but not limited to Architect, Consultant, Contractor's Superintendent, and Installer.
   1. Minutes of conference shall be recorded and distributed by Contractor to all parties in attendance within five days of conference.

1.04 SUBMITTALS

A. Prepare and make submittals in accordance with conditions of the Contract and Division 1 Specification Sections.

B. Materials List - Submit five copies if submitting in hard-copy format or one full electronic set of a complete materials list indicating manufacturer, model number, and description of all materials and equipment to be used. Show appropriate dimensions and adequate detail to accurately portray intent of construction via cut sheets and/or shop drawings, as appropriate based on plans, details, and specification information contained within.

C. Record Drawings (As-Builts):
   1. At onset of irrigation installation secure Autocadd files of original irrigation design from Owner. At the end of every day, revise as-built prints for work accomplished that day in red ink. As-built field prints shall be brought up-to-date at the close of the working day every Friday by a qualified draftsperson. A print of record plan(s) shall be available at Project Site. Indicate zoning changes on weekly as-built drawings. Indicate non-pressure piping changes on as-built. Upon completion of Project, but prior to scheduling of substantial acceptance walk-through, submit for review a final set of as-built mylars and an Autocadd disk copy. Dimensions, from two permanent points of reference (building corners, sidewalk, road intersections or permanent structures), location of following items:
      a. Connection to existing water lines.
      b. Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).
      c. Sprinkler control valves.
      d. Quick coupling valves.
      e. Manual drains and stop and waste valves.
      f. Drip line blow-out stubs.
      g. Control wire routing if not with pressure mainline.
      h. Gate valves.
      i. Control wire and communication cable splices
      j. Water meters
      k. Locations of all sleeving including size, quantity and depth of sleeve
      l. Flow sensors
      m. Pressure regulating valves
   2. Owner’s Representative will not certify any pay request submitted by the Contractor if the as-built drawings are not current, and processing of pay request will not occur until as-builts are up-dated.

D. Operation Instructions - Submit 3 written operating instructions including winterization procedures and start-up, with cut sheets of products, and coordinate controller/watering operation instruction with Owner maintenance personnel.
   1. Controller Charts:
      a. Do not prepare charts until Consultant has reviewed record (as-built) drawings.
      b. Provide one controller chart for each automatic controller installed.
         i. Chart may be reproduction of record drawing, if scale permits fitting of controller door. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.
         ii. Chart shall be blueline print of actual "as-built" system, showing area covered by that controller.
      c. Identify area of coverage of each remote control valve, using a distinctly different pastel color drawing over entire area of coverage.
      d. Following review of charts by Consultant, they shall be hermetically sealed between two layers of 20-mm thick plastic sheet
      e. Charts shall be completed and reviewed prior to final review of irrigation system.

E. Provide documentation of construction and demolition waste debris recycling / salvage rates. See Section 01 74 19 - Construction Waste Management and Disposal

1.05 DELIVERY, STORAGE, AND HANDLING

A. Comply with General Conditions and Division 1 Section “Product Requirements”.

B. Deliver, unload, store, and handle materials, packaging, bundling, products in dry, weatherproof, condition in manner to prevent damage, breakage, deterioration, intrusion, ignition, and vandalism. Deliver in original unopened packaging containers prominently displaying manufacturer's name, volume, quantity, contents, instructions, and conformance to local, state, and federal law. Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, snow, ice, temperature extremes, fire, or jobsite damage.

C. Handling of PVC Pipe - Exercise care in handling, loading and storing, of PVC pipe. All PVC pipe shall be transported in a vehicle that allows length of pipe to lie flat so as not to subject it to undue bending or concentrated external loads. All sections of pipe that have been dented or damaged shall be discarded, and if installed, shall be replaced with new piping.

1.06 JOBSITE CONDITIONS

A. Protection of Property:
   1. Preserve and protect all trees, plants, monuments, structures, and paved areas from damage due to Work of this Section. In the event damage does occur, all damage to inanimate items shall be completely repaired or replaced to satisfaction of Owner, and all injury to living plants shall be repaired by Owner. All costs of such repairs shall be charged to and paid by Contractor.
   2. Protect buildings, walks, walls, and other property from damage. Flare and barricade open ditches. Damage caused to asphalt, concrete, or other building material surfaces shall be repaired or replaced at no cost to Owner. Restore disturbed areas to original condition.

B. Existing Trees:
   1. All trenching or other Work under limb spread of any and all evergreens or low branching deciduous material shall be done by hand or by other methods so as to prevent damage to limbs or branches.
   2. Where it is necessary to excavate adjacent to existing trees use all possible care to avoid injury to trees and tree roots. Excavation, in areas where 2 inch and larger roots occur, shall be done by hand. Roots 2 inches or larger in diameter, except directly in the path of pipe of conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a trenching machine is operated close to trees having roots smaller than 2 inches in diameter, wall of trench adjacent to tree shall be hand trimmed, making clean cuts through roots. Trenches adjacent to

trees shall be closed within 24 hours, and when this is not possible, side of trench adjacent to tree shall be kept shaded with moistened burlap or canvas.

C. Protection and Repair of Underground Lines:
   1. Request proper utility company to stake exact location (including depth) of all underground electric, gas, or telephone lines. Take whatever precautions are necessary to protect these underground lines from damage. If damage does occur, Utility Owner shall repair all damage. Contractor shall pay all costs of such repairs unless other arrangements have been made.
   2. Request Owner, in writing, to locate all private utilities (i.e., electrical service to outside lighting) before proceeding with excavation. If, after such request and necessary staking, private utilities that were not staked are encountered and damaged by Installer, Owner shall repair them at no cost to Installer. If Contractor damages staked or located utilities, they shall be repaired by Utility Owner at Contractor's expense unless other arrangements have been made.

D. Replacement of Paving and Curbs - Where trenches and lines cross existing roadways, paths, curbing, etc., damage to these shall be kept to a minimum and shall be restored to original condition.

1.07 WARRANTY/GUARANTY

A. Manufacturer shall warrant materials against defects for a period of one year from date of Substantial Completion. Installer(s) shall guaranty workmanship for similar period.

B. Settling of backfilled trenches that may occur during guaranty period shall be repaired at no expense to Owner, including complete restoration of damaged property.

C. Expenses due to vandalism before substantial completion shall be borne by Contractor.

D. Owner will maintain turf and planting areas during warranty period, so as not to hamper proper operation of irrigation system.

1.08 MAINTENANCE

A. Furnish the following maintenance items to Owner prior to final Acceptance:
   1. Two Sets of special tools required for removing, disassembling, and adjusting each type of sprinkler head and valve supplied on this Project.
   2. One eight foot valve key for operation of stop and waste valve.
   3. Two six foot valve keys for operation of gate valves.
   4. Two keys for each automatic controller.
   5. Two quick coupler keys and two matching hose swivels for each type of quick coupling valve installed.
   6. Two aluminum drain valve keys of sufficient length for operation of drain valves.
   7. Remote
   8. Pad lock and keys for each yard hydrant.

B. Winterization - include cost in bid for winterizing complete system at conclusion of sprinkling season (in which system received final acceptance) within 3 days notification by the Owner. System shall be voided of water using compressed air or similar method reviewed by Consultant. Reopen, operate, and adjust system malfunctions accordingly during April of following season within 3 days of notification by Owner.

1.09 EXTRA STOCK - In addition to installed system furnish the following items to Owner:

A. 100’ roll in-line emitter tubing of each type used.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General Piping:

1. Pressure Supply Line (from point of connection through backflow prevention unit) - Type "K" Hard Copper (3/4" – 2 1/2"), Cross-linked high density polyethylene (PEX), and ductile iron (3" and larger).
2. Pressure Supply Lines (downstream of backflow prevention units) –Class 200 PVC BE (1" - 2 1/2") and Class 200 PVC RT (3" and larger), as noted on plans and schedule.
3. Non-pressure Lines - Class 200 PVC BE, as noted on plans.
4. Sleeving - Class 160 PVC, as noted on plans and schedule.
5. Drip Tubing - Toro Dura-Pol EHD 1645 3/4" with .050 inch wall thickness.
6. Emitter Tubing - As recommended by emitter manufacturer.

B. Copper Pipe and Fittings:
1. Copper Pipe - Type K, hard tempered.
2. Fittings - Wrought copper, solder joint type.
3. Joints - Soldered with solder, 45% silver, 15% copper, 16% zinc, and 24% cadmium and solidus at 1125~F and liquids at 1145~F.

C. Brass Pipe and Fittings:
1. Brass Pipe - 85% red brass, ANSI Schedule 40 screwed pipe.
2. Fittings - Medium brass, screwed 125-pound class.

D. Ductile Iron Pipe and Fittings:
1. Ductile Iron Pipe – Centrifugal cast ductile iron in metal molds for water pipe in accordance with ANSI C151 and AWWA A21.51 with asphaltic exterior coating and interior lining and coating in accordance with ANSI C151 and AWWA A21.
2. Fittings – Mechanical joint as supplied by the pipe manufacturer and rated for working pressures of 350 psi.
3. Gaskets – Furnish in accordance with ANSI C111 and AWWA A21.11.

E. Plastic Pipe and Fittings:
1. Identification Markings:
   a. Identify all pipe with following indelible markings:
      i. Manufacturer's name.
      ii. Nominal pipe size.
      iii. Schedule of class.
      iv. Pressure rating.
      v. NSF (National Sanitation Foundation) seal of approval.
      vi. Date of extrusion.
2. Solvent Weld Pipe - Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12454-B, Type 1, Grade 1.
   a. Fittings - Standard Weight, Schedule 40, injection molded PVC; complying with ASTM D1784 and D2466, cell classification 12454-B.
      i. Threads - Injection molded type (where required).
      ii. Tees and ells - Side gated.
   b. Threaded Nipples - ASTM D2464, Schedule 80 with molded threads.
   c. Teflon Tape – All PVC male threaded fittings and nipples, excluding marlex fittings, shall receive wrapping of Teflon tape applied to threaded surfaces per pipe manufacturer's recommendations.
   d. Joint Cement and Primer - Type as recommended by manufacturer of pipe and fittings.
3. Gasketed End Pipe - Manufactured from virgin Polyvinyl Chloride compound in accordance with ASTM D2241 and ASTM D1784; cell classification 1254-B, Type 1,Grade 1.
   a. Fittings and Services Tees (3" and larger) - Ductile iron, grade 70-55-05 in accordance with ASTM A-536. Fittings shall have deep bell push-on joints with gaskets meeting ASTM F-477.
   b. Gaskets - Factory installed in pipe and fittings, having a metal or plastic support within gasket or a plastic retainer ring for gasket.
   c. Lubricant - As recommended by manufacturer of pipe fittings.

4. Flexible Plastic Pipe - Manufactured from virgin polyethylene in accordance with ASTM D2239, with a hydrostatic design stress of 630 psi and designated as PE 2306.
    a. Fittings – Insert type manufactured in accordance with ASTM D2609; PVC Type 1 cell classification 12454-B.
    b. Clamps - All stainless steel worm gear screw clamps. Use 2 clamps per joint on 1-1/2 inch and 2 inch fittings.

F. Drip, Sub-Surface Irrigation Systems and Bubblers:
1. Drip Tubing - Manufactured of flexible vinyl chloride compound conforming to ASTM D1248, Type 1, Class C, Category 4, P14 and ASTM D3350 for PE 122111C.
2. Fittings - Type and diameter recommended by tubing manufacturer.
3. Drip Valve Assembly - Type and size shown on Drawings.
    a. Wye Strainer - Plastic construction with 150 mesh nylon screen and 1/2 inch blowout assembly.
    b. Control Valve - 2 way, solenoid pilot operated type made of synthetic, non-corrosive material; diaphragm activated and slow closing. Include freely pivoted seat seal; retained (mounted) without attachment to diaphragm.
    c. Pressure Reducing Valve - Plastic construction as detailed.
4. Emitters - Single port, pressure compensating, press on type.
5. Sub-Surface tubing - Size and type shown on Drawings; installed as detailed.
    a. Dripperline Tubing – Nominal sized one-half inch (1/2") low density, ultra-violet-resistant linear polyethylene tubing with internal pressure-compensating, continuous self-cleaning, integral drippers at specified intervals and with specified discharge rates. Emitter spacing and discharge specified on Drawings.
    b. Headers and footers – polyethylene or PVC pipe as shown on Drawings.
    c. Fittings - Type and diameter recommended by tubing manufacturer.
    d. Drip Valve Assembly - Type and size shown on Drawings.
        i. Wye Strainer - Plastic construction with 150 mesh nylon screen and 1/2 inch blowout assembly.
        ii. Control Valve - 2 way, solenoid pilot operated type made of synthetic, non-corrosive material; diaphragm activated and slow closing. Include freely pivoted seat seal; retained (mounted) without attachment to diaphragm.
        iii. Pressure Reducing Valve - Plastic construction as detailed.
    e. Soil staples – install on all on-surface installations, spaced 3-5" on center.

G. Gate Valves:
1. Gate Valves for 3/4 inch through 2-1/2 Inch Pipe - Brass construction; solid wedge, IPS threads, and non-rising stem with wheel operating handle.
2. Gate Valves for 3 Inch and Larger Pipe - Iron body, brass or bronze mounted AWWA gate valves with a clear waterway equal to full nominal diameter of valve; rubber gasket or mechanical joint-type only. Valves shall be able to withstand a continuous working pressure of 200 psi and be equipped with a square operating nut and resilient wedge. Provide pipe restraints on gate valves 3 inches or larger as detailed.

H. Quick Coupling Valves - Brass two-piece body designed for working pressure of 125 PSI; operable with quick coupler. Equip quick coupler with locking rubber cover.

I. Valve Boxes:
1. Gate Valves, Quick Coupling Valves, Drain Valves, Drip Line Blow-out Stubs, and Wire Splice or Stub Box - Carson Brooks #910-10, box w/ Bolt Down Cover as detailed.
2. 1 inch through 2 inch Control Valves, Master Valves, Pressure Regulating Valves and Communication Cable Splice box, Sub-meters - Carson Brooks #1419-12 box, w/ Bolt Down Cover as detailed.
3. Drip Valve Assemblies and Flow Sensors - Carson Brooks #1220-12 box w/ Bolt Down, Carson Brooks #1730-12 box, as detailed.

J. Electrical Control Wiring:
   1. Low Voltage:
      a. Electrical Control Wire - AWG UFUL approved No. 14 direct burial copper wire or larger, if required to operate system as designed.
      b. Electrical Common Wire - AWG UFUL approved No. 14 direct burial copper wire or larger, if required to operate system as designed.
      c. Wire Colors:
         i. Control Wires - Red.
         ii. Common Wires - White.
         iii. Master Valve Wires - Blue.
         iv. Drawing Spare Control Wires - Black.
         v. Drawing Spare Common Wires - Yellow.
         vi. Maintenance Spare Control Wires - Green.
         vii. Maintenance Spare Common Wires - Brown.
      d. If multiple controllers are utilized, and wire paths of different controllers cross each other, both common and control wires from each controller shall be different colors approved by Consultant.
      e. Control Wire connections and splices shall be made with 3M DBY direct bury splice.
   2. High Voltage - Type required by local codes and ordinances, of proper size to accommodate needs of equipment serviced.

K. Automatic Controller - Size and type shown on Drawings; mounted as detailed.

L. Electric Control Valves - Size and type shown on Drawings having manual flow adjustment, solenoids, and manual bleed nut.

M. Backflow Preventer - Size and type indicated on Drawings; Brass or iron construction with 150 psi working pressure.

N. Yard Hydrant – Frost-free and with padlock. Size and type indicated on Drawings.

O. Irrigation Sub-meter - Size and type indicated on Drawings.

PART 3 - EXECUTION

3.01 SITE CONDITIONS, LANDSCAPE PLAN REVIEW AND COORDINATION

A. Contractor will be held responsible for coordination between landscape and irrigation system installation. Landscape material locations shown on the Landscape Plan shall take precedence over the irrigation system equipment locations. If irrigation equipment is installed in conflict with the landscape material locations shown on the Landscape Plan, the Contractor will be required to relocate the irrigation equipment, as necessary, at Contractor's expense.

B. Contractor is responsible to notify Consultant of any field conditions that vary from the conditions shown on the Irrigation Construction Documents. If Contractor fails to notify Consultant of these conditions, Contractor will be held responsible for all costs associated with system adjustments required due to the change in field conditions.

C. Comply with the requirements of Section 31 25 00, TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN for preparation and protection of the site.

3.02 STATIC PRESSURE VERIFICATION

A. Contractor shall field verify the static pressure at the project site, prior to commencing work or ordering irrigation materials, and submit findings, in writing, to Consultant. If Contractor fails to verify static water pressure prior to commencing work or ordering irrigation materials, Contractor shall assume responsibility

for all costs required to make system operational and the costs required to replace any damaged landscape material. Damage shall include all required material costs, design costs and plant replacement costs.

3.03 INSPECTION

A. Examine areas and conditions under which Work of this Section is to be performed. Do not proceed with Work until unsatisfactory conditions have been corrected.

B. Grading operations, with the exception of final grading, shall be completed and approved by Owner before staking or installation of any irrigation system begins.

C. Underground Utilities shall be installed prior to installation of irrigation system. If irrigation installation takes place prior to utility installation, Contractor shall notify Owner of this condition in writing prior to commencement of irrigation installation.

3.04 PREPARATION:

A. Staking shall Occur as Follows:
   1. Mark, with powdered lime, routing of pressure supply line and flag heads for first few zones. Contact Consultant 48 hours in advance and request review of staking. Proposed locations of all trees shall be field staked by Contractor and approved by Owner/Landscape Architect prior to Consultant review of irrigation staking. Consultant will advise installer as to the amount of staking to be prepared. Consultant will review staking and direct changes if required. Review does not relieve installer from coverage problems due to improper placement of heads after staking.
   2. Contractor shall contact Consultant if field spacing varies by +/- 10% of the spacing shown on the irrigation plans. If Contractor fails to notify Consultant of variances exceeding 10%, Contractor assumes full responsibility for the costs associated with any required system modifications deemed necessary by the Consultant or Owner.
   3. If Project has significant topography, freeform planting beds, or other amenities, which could require alteration of irrigation equipment layout as deemed necessary by Consultant, do not install irrigation equipment in these areas until Consultant has reviewed equipment staking.

B. Install sleeving under asphalt paving and concrete walks, prior to concreting and paving operations, to accommodate piping and wiring. Compact backfill around sleeves to 95% Modified Proctor Density within 2% of optimum moisture content in accordance with STM D1557.

C. Trenching - Trench excavation shall follow, as much as possible, layout shown on Drawing. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris removed.
   1. Clearances:
      a. Piping 3 Inches and Larger - Make trenches of sufficient width (14 inches minimum) to properly assemble and position pipe in trench. Minimum clearance of piping 3 inches or larger shall be 5 inches horizontally on both sides of the trench.
      b. Piping Smaller than 3 Inches - Trenches shall have a minimum width of 7 inches.
      c. Line Clearance - Provide not less than 6 inches of clearance between each line and not less than 12 inches of clearance between lines of other trades.
   2. Pipe and Wire Depth:
      a. Pressure Supply Piping – 24 inches from top of pipe minimum or as noted on plans.
      b. PVC Sleeving – To match depth of sleeved material.
      c. Non-pressure Piping (rotor) - 18 inches from top of pipe.
      d. Non-pressure Piping (pop-up) - 14 inches from top of pipe.
      e. Control Wiring/Communication Cable - Side of pressure main or at 18 inch depth if installed in a separate trench with no mainline piping.
      f. Drip Tubing - 12 inches from top of pipe.
      g. Emitter Tubing (Micro-tubing) - 8 inches from top of pipe.
      h. Subsurface – 4 inches from top of pipe or as noted on plans.

3. Boring will be permitted only where pipe must pass under obstruction(s) which cannot be removed. In backfilling bore, final density of backfill shall match that of surrounding soil. It is acceptable to use sleeves of suitable diameter installed first by jacking or boring, and pipe laid through sleeves. Observe same precautions as though pipe were installed in open trench.
4. Vibratory Plow - Non-pressure piping may be installed through use of vibratory plow method if consultant determines soil conditions are satisfactory for this method of installation. Vibratory plowing does not relieve installer of minimum pipe depths.

3.05 INSTALLATION - Locate other equipment as near as possible to locations designated. Consultant shall review deviations prior to installation.

A. PVC Piping - Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40 degrees F. Place manual drain valves at low points and dead ends of pressure supply piping to insure complete drainage of system. When pipe installation is not in progress, or at end of each day, close pipe ends with tight plug or cap. Perform Work in accordance with good practices prevailing in piping trades.
1. Solvent Weld PVC Pipe - Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations.
2. Gasketed End Pipes:
   a. Lay pipe and make pipe to fitting or pipe to pipe joint, following OR70 recommendations (Johns-Manville Guide for Installation of Ring-Tite Pipe), or pipe manufacturer's recommendations.
   b. Construct concrete thrust blocks behind all gasketed fittings, tees, bends, reducers, line valves, and caps in accordance with pipe manufacturer's recommendations. Contact Consultant prior to placing thrust blocks, for observation of thrust block excavation and initial placement. Thrust block bearing surface shall be calculated based on tables below. All bearing surfaces shall be undisturbed soil:

THRUST BLOCK SIZING GUIDE:

Thrust developed per 100 PSI pressure (lbs. force) for various fitting configurations.

Pipe Size	Fitting: 90 deg. Elbow	Fitting: 45 deg. Elbow	Valves, Tees, Dead Ends
3	1,000	600	800
4	1,800	1,100	1,300
6	4,000	2,300	2,900
8	7,200	4,100	5,100
10	11,200	6,300	7,900
12	16,000	9,100	11,300

Approximate bearing strength of typical soils.

Soil Type	Lbs/sq. ft.
Mulch, Peat, etc.	0
Soft Clay	500
Sand	1,000
Sand and Gravel	1,500
Sand and Gravel with Clay	2,000
Sand and Gravel Cemented with Clay	4,000
Hard Pan	5,000

Example Calculation: 6 inch 90 degree elbow in sand and gravel soil

Bearing Surface Area (square feet) = 4,000 lbs / 1,500 lbs/ ft 2

= 2.67 square feet bearing surface area on undisturbed soil

3. Flexible Plastic (Polyethylene) Pipe - Lay pipe and assemble fittings following manufacturer's recommendations.

B. Drip Tubing:

1. Make all fitting connections as per manufacturer's recommendations.
2. Use only manufacturer provided or recommended hole punch when making penetrations in drip tubing for insert fittings. Use of any other hole punch shall be cause for immediate removal and replacement of all installed drip tubing.
3. Install drip line blow-out stubs at all dead ends of drip tubing.

C. Control Wiring:
1. Low Voltage Wiring:
   a. Install in conduit, as indicated on plans.
   b. Bury control wiring between controller and electric valves in pressure supply line trenches, strung as close as possible to main pipe lines with such wires to be consistently located below and to one side of pipe, or in separate trenches.
   c. Bundle all 24 volt wires at 10 foot intervals and lay with pressure supply line pipe to one side of the trench.
   d. Provide an expansion loop at every pressure pipe angle fitting, every electric control valve location (in valve box), and every 500 feet. Form expansion loop by wrapping wire at least 8 times around a 3/4 inch pipe and withdrawing pipe.
   e. Make all splices and E.C.V. connections using 3M DBY connectors or similar dry splice method.
   f. Install all control wire splices not occurring at control valve in a separate splice valve box.
   g. Install one control wire for each control valve.
   h. Maintenance spare wires - In addition to spare wires labeled on drawings, extend two spare #14 AWG UFUL control wires and one spare #14 AWG UFUL common wire from controller pedestal to the end of each and every leg of mainline. Label maintenance spare wires at controller and wire stub box.
2. High Voltage Wiring for Automatic Controller:
   a. Provide 120 volt power connection to automatic controller (from Solar Powered Supply System).
   b. All electric work shall conform to local codes, ordinances, and authorities having jurisdiction. All high voltage electrical work shall be performed by licensed electrician.

D. Automatic Controller:
1. Install controller in accordance with manufacturer's instructions as detailed and where shown on Drawings.
2. Connect remote control valves to controller in numerical sequence as shown on Drawings.
3. Owner shall approve final location of controller prior to installation.
4. Connect remote control valves to controller in numerical sequence as shown on Drawings.
5. All above ground conduit shall be rigid galvanized with appropriate fittings. All below ground conduit shall be schedule 40 PVC.

E. Electric Control Valves - Install cross-handle four inches below finished grade where shown on Drawings as detailed. When grouped together, allow minimum of 12 inches between valve box sides. Install each remote control valve in a separate valve box. Install valve box flush with grade or when present flush with surfacing material (rock mulch). When parallel to roadway, sidewalk or other permanent element or structure, control valve and box to be installed perpendicular to element or structure, spaced equally.

F. Quick Coupling Valves - Install quick couplers on swing-joint assemblies as indicated on construction details; plumb and flush to grade. Angled nipple relative to pressure supply line shall be no more than 45 degrees and no less than 10 degrees.

G. Drip and Sub-Surface Valve Assemblies - Install valve assembly as detailed.

H. Drip Emitters - Stake all surface emitters as detailed and staked with acceptable tubing stakes.

I. Drain Valves - Install one manual drain valve on pressure supply line directly downstream of backflow preventer and at all low points in pressure supply line as detailed. Provide a three cubic foot drainage sump for drain valve as detailed.

J. Valve Boxes:
   1. Install one valve box for each type of valve installed as detailed. Valve box extensions are not acceptable except for master valves and flow sensors. Install gravel sump after compaction of all trenches. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
   2. Brand controller letter and station number on lid of each valve box. Letter and number size shall be no smaller than 1 inch and no greater in size than 1 1/2 inches. Depth of branding shall be no more than 1/8 inch into valve box lid.
   3. Concrete polymer boxes shall be labeled with branded inserts per manufacturer's recommendations.

K. Gate Valves - Install where shown on Drawings as detailed.

L. Sprinkler Heads - Install sprinkler heads where designated on Drawings or where staked. Set to finish as detailed. Spacing of heads shall not exceed the maximum indicated on Drawing unless re-staked as directed by Consultant. In no case shall the spacing exceed maximum recommended by manufacturer. Install heads on swing joints or riser assemblies as detailed. Adjust part circle heads for proper coverage. Adjust heads to correct height after sod is installed. Plant placement shall not interfere with intended sprinkler head coverage, piping, or other equipment. Consultant may request nozzle changes or adjustments without additional cost to the Owner.

M. Backflow Preventer - Install as detailed at location designated on Drawings.

N. Backfilling - Do not begin backfilling operations until required system tests have been completed. Backfill shall not be done in freezing weather except with review by Consultant. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Trenches shall be finish graded prior to walk-through of system by Consultant.
   1. Materials - Excavated material is generally considered satisfactory for backfill purposes. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 1 inch in maximum dimension. Do not mix subsoil with topsoil. Material not suitable for backfill shall be hauled away. Contractor shall be responsible for providing suitable backfill if excavated material is unacceptable or not sufficient to meet backfill, compaction, and final grade requirements.
   2. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
   3. Compact backfill to 90% maximum density, determined in accordance with ASTM D155-7 utilizing the following methods:
      a. Mechanical tamping.
      b. Puddling or ponding. Puddling or ponding and/or jetting is prohibited within 20'-0" of building or foundation walls.

O. Piping Under Paving:
   1. Provide for a minimum cover of 18 inches between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed under asphaltic concrete or concrete paving.
   2. Piping located under areas where asphalt or concrete paving will be installed shall be bedded with sand (a layer 6" below pipe and 6" above pipe).
   3. Compact backfill material in 6" lifts at 90% maximum density determined in accordance with ASTM D1557 using manual or mechanical tamping devices.
   4. Set in place, cap, and pressure test all piping under paving, in presence of Owner prior to backfilling and paving operations.
   5. Piping under existing walks or concrete pavement shall be done by jacking, boring, or hydraulic driving, but where cutting or breaking of walks and/or concrete is necessary, it shall be done and replaced at not cost to Owner. Obtain permission to cut or break walks and/or concrete from Owner.

P. Water Supply and Point of Connection - Water supply shall be extended as shown from water supply lines.
   1. Install one sub-meter at the irrigation connection to well water supply line, mounted as detailed.
   2. Install one sub-meter at the location shown on plan prior to valves supplying Orchard, Yard Hydrants and Riparian Areas, mounted as detailed.

3.06 FIELD QUALITY CONTROL:

A. Flushing - After piping, risers, and valves are in place and connected, but prior to installation of sprinkler heads, quick coupler assemblies, and hose valves, thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthermost valves. Cap risers after flushing.

B. Pressure Testing - Conduct test in presence of Consultant. Arrange for presence of Consultant 48 hours in advance of testing. Supply force pump and all other test equipment. Compressed air shall not be used for pressure testing system.
   1. After backfilling, and installation of all control valves, fill pressure supply line with water, and pressurize to 40 PSI over the designated static pressure or 120 PSI, whichever is greater, for a period of 2 hours.
   2. Leakage, Pressure Loss - Test is acceptable if no loss of pressure is evident during the test period.
   3. Leaks - Detect and repair leaks.
   4. Retest system until test pressure can be maintained for duration of test.
   5. Before final acceptance, pressure supply line shall remain under pressure for a period of 48 hours.
   6. Pressure test shall be scheduled and passed prior to scheduling of Substantial Completion Walk-through.

C. Walk-Through for Substantial Completion:
   1. Arrange for Consultant's presence 48 hours in advance of walk-through.
   2. Entire system shall be completely installed and operational prior to scheduling of walk-through.
   3. Operate each zone in its entirety for Consultant at time of walk-through and additionally, open all valve boxes if directed.
   4. Generate a list of items to be corrected prior to Final Completion.
   5. Furnish all materials and perform all work required to correct all inadequacies of coverage due to deviations from Contract Documents.
   6. During walk-through, expose all drip emitters under operations for observation by Consultant to demonstrate that they are performing and installed as designed, prior to placing of all mulch material. Schedule separate walk-through if necessary.
   7. Supply Consultant with prints of irrigation as-builts prior to scheduling substantial completion walk-through.

D. Walk-Through for Final Completion:
   1. Arrange for Consultant’s presence 48 hours in advance of walk-through.
   2. Show evidence to Consultant that Owner has received all accessories, charts, record drawings, and equipment as required before Final Completion walk-through is scheduled.
   3. Operate each zone, in its entirety for Consultant at time of walk-through to insure correction of all incomplete items.
   4. Items deemed not acceptable by Consultant shall be reworked to complete satisfaction of Consultant.
   5. If after request to Consultant for walk-through for Final Completion of irrigation system, Consultant finds items during walk-through which have not been properly adjusted, reworked, or replaced as indicated on list of incomplete items from previous walk-through, Contractor shall be charged for all subsequent walk-throughs. Funds will be withheld from final payment and/or retainage to Contractor, in amount equal to additional time and expenses required by Consultant to conduct and document further walk-throughs as deemed necessary to insure compliance with Contract Documents.

3.07 ADJUSTING - Upon completion of installation, fine-tune entire system by adjusting patterns and break-up pins, and setting pressure reducing valves at proper and similar pressure to provide optimum and efficient coverage. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto

walks, roadways, and buildings as much as possible. Heads of same type shall be operating at same pressure +/- 10%.

A. If it is determined that irrigation adjustments will provide proper coverage, and improved water distribution as determined by Consultant, contractor shall make such adjustments prior to Final Acceptance, as directed, at no additional cost to Owner. Adjustments may also include changes in nozzle sizes, degrees of arc, and control valve throttling.

B. All sprinkler heads shall be set perpendicular to finish grade unless otherwise noted on Construction Plans or directed by Consultant.

C. Areas which do not conform to designated operation requirements due to unauthorized changes or poor installation practices shall be immediately corrected at no additional cost to the Owner.

3.08 CLEANING - Maintain continuous cleaning operation throughout duration of work. Dispose of, off-site at no additional cost to Owner, all trash or debris generated by installation of irrigation system.

A. Comply with the requirements of DIVISION 1, General Requirements, and Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL for recycling and salvage of debris and waste.

B. Comply with the requirements of Section 31 25 00, TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN for preparation and protection of the site.

END OF SECTION

PART 1- GENERAL

1.01 DESCRIPTION OF WORK

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specifications sections, apply to work of this section.

B. Related Work Specified Elsewhere:

1. Section 32 91 13 - Soil Preparation

C. The work of this section includes furnishing all trees, shrubs and other materials necessary to complete the landscape planting in accordance with the specifications and drawings contained in the Contract Documents. This shall include all labor, equipment and performance of operations including planting, mulching, fertilizing, watering, cleanup of planting areas and other related work as specified herein.

1.02 REFERENCE STANDARDS

A. American Standards for Nursery Stock (ANSI A 300,) American Association of Nurserymen, Washington, D.C.

B. ANSI A 300, ANSI Z 133.1 and ANSI Z60.1 - 2012

C. Hortus III, L.H. Bailey Hortorium and Staff, MacMillian Co., New York, 1976.

D. Manual of Woody Landscape Plants, M.A. Dirr, Stipes Publishing Co., Champaign, Illinois, 1995.

E. Standardized Plant Names, Second Edition

F. MSMT603 New Mexico Standard Method of Tests (SHA).

1.03 QUALITY ASSURANCE

A. Contractor Qualifications: All work specified herein shall be performed by a landscape contractor with a minimum of five (5) years of experienced with the type and scale of work required and having equipment and personnel adequate to perform the work satisfactorily.

B. Source Quality Control:
1. Compliance with Laws. All plant materials shall comply with State and Federal Laws, including the New Mexico Plant Protection Act, with respect to inspection for disease infestation.
2. Plant Quality Standards: All plant material shall have been grown or dug and burlapped meet to standards set by American Association of Nurserymen and ANSI A 300.
3. Tagging of Trees. The Contractor shall submit to the Owner, at least one week in advance of tagging date, an itemized list of trees along with a notice as to where and when the nursery inspection of trees shall may be made. The accepted trees will be tagged by the Owner for delivery to the site.

4. Plant Inspection: Inspection of all plant materials will be made for size, vigor, representativeness of species and variety, injury, condition of ball and roots, or latent defects. Inspection at delivery does not preclude the possibility of rejection of material after installation.
5. Substitutions. Substitutions of any plant materials requires the written approval of the Owner prior to ordering plants. Requests for substitutions must be submitted with any cost or quantity adjustments for approval.
6. Analysis and Standards: All packaged standard products shall have manufacturer's certified analysis. For other materials, provide analysis if required in these specification. Analysis is to be by recognized laboratory and made in accordance with methods established by the Association of Official Agricultural Chemists.
7. Tagging or Labeling of Plant Materials. All plant materials shall be true to species, variety and legibly tagged with origin, name and size of material. These tags shall be durable labels marked in weather resistant ink and securely attached to each plant of a single species, variety and size identification. They will remain on plants through final inspection.

1.04 SUBMITTALS

A. Submittal Procedure: Submit samples and detailed technical data of products proposed for use for Owner's approval according to Section 01 33 00 Submittal Procedures.

B. Qualifications of Landscape Contractor. Submit Contractor's qualifications showing experience, quality, and capabilities as noted in Quality Assurance.

C. Plant Sources. Submit for approval by the Owner the nursery or sources for the plant materials to be used in the project.

D. Plant Photos. Submit photographic samples of representative trees from the plant sources. Photos shall include a scaled ruler or yardstick in the photo. The photos shall demonstrate the quality, size, and health of trees to be used in the project.

E. Samples. Submit one (1) cubic foot sample of each type of mulch specified on the Drawings to the Owner for approval.

F. Product Data/Sources: Submit two copies of product names, literature and application rates for fertilizer, antidessicant, and amendments.

G. Maintenance Materials: Submit two copies of typewritten instructions bound in three-ring binder of recommended landscape maintenance procedures to be followed by the Owner for one full year. Submit prior to expiration of required maintenance periods.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery/ Storage of Materials
1. Delivery of Shipment to Site. The Contractor shall promptly notify the Owner in advance of the time and manner of delivery of plant materials. The Contractor shall furnish, at the time of notice, an itemized list, in duplicate, of the actual quantities of plant materials in each delivery, in order to expedite the required inspection at the point of delivery. Plants rejected at this inspection any time prior to planting shall be removed immediately from the planting area. When shipment is made, all plant materials shall be packed to provide made in a closed vehicle or plants shall be completely covered to prevent drying or other wind damage.

Particular care should be exercised in digging, wrapping and binding of plants to insure safe loading and shipment. Mushroomed or cracked rootballs shall be unacceptable for planting.

2. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.

B. Handling Materials:
1. Trunks, branches, and root balls shall not be damaged during lifting and planting operations.
2. Handle container-grown stock only in containers.

1.06 JOB CONDITIONS

A. Existing Conditions:
1. General: Proceed with and complete landscape work as rapidly as portions of site become available.
2. Determine the acceptability of each planting site and subgrade prior to the start of planting work.
3. Utilities: Locate all existing underground utilities in the construction area as accurately as is possible. Perform work in a manner which will avoid damage to underground utilities. Hand excavate as required. Any damage to the utilities shall be repaired by the Contractor at his own expense to the satisfaction of the Owner.
4. Grade Stakes: Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
5. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions or obstructions, notify the Owner before planting.

B. Protection/ Sequencing/ Scheduling:
1. Protect all existing items to remain.
2. Ensure proper timing of each phase of work in relationship to the normal planting season for each type of planting work.
3. Coordinate planting with the required maintenance period.
4. Coordination with seeding and sodding: Plant trees and shrubs after final grades are established and prior to seeding and sodding, unless otherwise accepted by the Owner. If planting of trees and shrubs occurs after seeding and sodding work, protect such areas and promptly repair damage resulting from planting operations.

1.07 GUARANTEE/WARRANTY

A. Warranty trees, shrubs and ground covers through maintenance period and until final acceptance.

B. Replace dead or unhealthy trees and shrubs at the end of warranty period.

C. Only one replacement per plant will be required during the warranty period, except for losses of original or replacement material due to failure to comply with the specification requirements.

PART 2 - PRODUCTS

2.01 PLANT MATERIALS

A. Plant Materials. All plants shall be as specified on the Planting Plans and shall be healthy, vigorous and representative of the species and variety. They shall have normal, well developed branch and root systems. All plants shall be free of mechanical injury, free of sun or frost damage, free from insects, insect eggs and without disfiguring knots or other objectionable defects. All plant materials shall be selected for quality of the specimen. Plant material shall be nursery-grown.

B. Growing Conditions. Plants shall have been grown under climatic conditions similar to project locality for at least two (2) years.

C. Pruning. Plants shall not be pruned prior to or after delivery unless authorized by the Owner and must be done under the supervision of a qualified arborist or horticulturist.

D. Size. All plants shall equal or exceed minimum measurements specified on the plans. Grading of plant material shall be in accordance with the codes and standards of AAN. Any undergrade plants shall be removed and replaced prior to provisional acceptance.

E. Measurement. Caliper measurements shall be taken six (6) inches above natural ground line on the trunk.

F. Tree Orientation Marking. All trees prior to digging in the field shall be marked to to indicate the north side of tree trunk. Mark is to be temporary and done in manner not deleterious to the long term health and growth of the tree.

G. Nomenclature. Nomenclature shall conform with Standardized Plant Names, Second Edition. Names not present in this listing shall conform to accepted botanical nomenclature in the nursery trade.

2.02 TREES

A. Deciduous Trees: All deciduous trees, except aspen, and New Mexican privet, shall have been container or nursery grown (not collected or plantation grown) from an approved nursery. Trees noted to be boxed shall be grown in box for a period of one year minimum and two years maximum. Any rootbound material shall not be accepted. Boxed or containerized trees shall be handled by container only. All trees shall be first-class representatives of their species; well-shaped and full. Tree trunks shall be straight and plumb unless otherwise specified. The Owner reserves the right to reject any trees not meeting these criteria. Balled and burlapped material will be rejected if wrapped with plastic burlap or plastic twine. All balled & burlapped material shall have been properly root pruned.

B. Evergreen Trees. Evergreen trees, except for locally native pines, shall be grade XX or better and nursery grown. Evergreen trees shall be straight, evenly canopied, full and shapely for the species, unless specified as a character tree. Balled and burlapped material shall be tightly and neatly wrapped around the rootball. Field dug material shall have rootballs one size larger than that required for nursery grown stock of the same size. AAN standards shall be used for ball sizes. Nursery grown material shall have been root pruned prior to digging.

2.03 SHRUBS AND GROUND COVERS

A. Container Stock: Plants designated as "Container" grown in various sizes and type containers in the plant list shall be of a size and stage of development normal in the nursery industry for the size

container in which they are specified. They shall have been grown in their containers long enough to have developed good, round root systems capable of holding the soil intact after removal from the container, but not so long as to have become root bound. Any root-bound material will not be accepted.

B. Ground Cover: Provide well rooted, established ground cover in removable containers or integral peat pots, with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size specified.

2.04 SOIL AMENDMENTS

A. Fertilizer. Standard products manufactured and complying with state and U.S. federal fertilizing laws. Exact fertilizer to be used shall be adjusted based upon the soils test analysis on the existing and imported soils, but for bidding purposes Grow Power Plus at manufacturer's recommended rates shall be applied to all plants.

B. Soil Additives/ Plant Stimulants. Soil additives such as Ironite and Super Phosphate shall be applied if needed as a result of the soils test analysis. The plant stimulant, Superthrive, shall be applied to all plants at five (5) times the rate recommended by the manufacture.

C. Compost. Compost material shall be as noted in Section 32 91 13 Soil Preparation.

2.05 MISCELLANEOUS MATERIALS

A. Mulch/Cobble Stones. Install in areas as noted on the plans per detail.
   1. Cobble Stones shall be 4” – 8” diameter angular Mountain Air Brown cobble or approved equal to match crusher fines.

B. Anti-Desiccant: Emulsion-type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's containers and mix in accordance with manufacturer's instructions. Acceptable Product: "Wilt-Pruf."

C. Staking Materials: Required only when indicated on the Drawings. Staking material shall be as specified on the Drawings.

2.06 WATER

A. Water for maintaining plants shall be clean and free from pollutants that would be harmful to plant growth or contaminate the environment.

PART 3 - EXECUTION

3.01 PREPARATION

A. Plant Material Locations: Tree and shrub locations as shown on the planting plan are approximate only. Contractor is to place all plant material locations as shown on the planting plan, and under the direction of the Owner adjust the position and orientation of trees and shrubs as required. Final positions of all plant material are subject to the approval of the Owner.

B. Preparation Ground Surface: Areas to be planted or mulched are to be free of rock/stones greater than one inch across, trash and other debris prior to beginning planting or mulching. Subgrades for planted and mulched areas are to be approved by the Owner prior to beginning planting or mulching.

3.02 INSTALLATION

A. Planting General.
1. Soil amendments shall be as noted in Section 32 91 13 Soil Preparation.
2. Plants shall not be planted deeper than the original ground line.

B. Trees/ Individual Locations: Excavate tree pits so that top of rootball will be above adjacent soil grade.
1. Tree pit excavations shall be three times as wide as the rootball in diameter and shall be no deeper than the maximum depth of the rootball.
2. Prior to setting the tree flood the tree pit and allow all water to percolate in to soil.
3. Set rootball plumb in center of pit and orient tree north marking to face site north.
4. Remove burlap and wire from top half of root ball.
5. Unless otherwise directed on the Drawings, backfill with excavated soil in 6" tamped layers. Do not add compost to tree backfill.
6. Apply fertilizer tablets and other soil additives evenly around the perimeter of each tree rootball at a depth half way between the top and middle of the rootball.
7. Flood with water after two-thirds backfilled. After water is absorbed, continue backfilling and tamping to grade, leaving no voids or air pockets. Water again after placing final layer of backfill.
8. Form a water well around each tree if noted on the Drawings as specified at each type of tree. Fill the watering well with mulch as specified.

C. Shrub planting/ Individual Locations:
1. Shrub pit excavation shall be three times larger than width of rootball and shall only be as deep as the maximum depth of the rootball.
2. Prior to setting the plant, flood the pit and allow all water to percolate in to soil.
3. Set shrub rootball plumb in center of pit.
4. Backfill with two parts native soil and one part compost, unless other wise noted in Section 32 91 13 Soil Preparation.
5. Apply fertilizer tablets and other soil additives when shrub pit is two-thirds backfilled.
6. Continue backfilling to finish grade, create watering well, and thoroughly water.

D. Planting Beds/ Mass Planting Areas:
1. Grade existing soil to proper depth to meet finish grades for area. Grading shall allow for compost, soil additives, and mulch depths.
2. Spread compost at rates noted Section 32 91 13 Soil Preparation.
3. Till compost to a minimum depth of twelve inches (12) throughout the planting bed. Till in two directions each at right angles to each other.
4. Spread soil additives and fertilizer as noted on the plans, and till 6" into compost amended soils. Till in two directions each at right angles to each other.
5. Rake and remove all rocks over 1 inch size, trash, debris or other deleterious material from the top three inches of the prepared bed.
6. Soak the amended area with water. Let the area dry. Fill any large depressions or settlement.

7. Set out plant materials designated for the planting area. If a formal arrangement is shown on the plan, align and measure plants in a uniform triangular pattern; or as shown on the Drawings; or as directed by the Owner.
8. Excavate pits large enough to set each plant. Backfill with excavated planter soil.
9. Water area thoroughly after planting. Fill depressions and level high spots. Fine rake bed.

E. Apply anti-desiccant to leafed out deciduous trees and shrubs, and broadleaf evergreens.

F. Mulch: Spread a uniform layer of specified mulch as noted on the Drawings. If not indicated on drawings, for bid purposes, assume four (4) inch layer of tan gravel. Any watering wells and planting areas to receive mulch shall be raked smooth, firm, and graded as required. Planted areas shall be approved by the Owner prior to mulch installation.

G. Staking and Guying: If required on the Drawing, plants shall be guyed and staked as shown on the Drawings. If a manufactured tree staking system is shown in the drawings, install the system as per the manufacturer's instructions.

3.03 FIELD QUALITY CONTROL

A. Pruning: Pruning shall only be done under direct supervision of the Owner and in accordance with ANSI Z 133.1 and ANSI Z60.1 - 2004. Remove dead and broken branches. Prune deciduous trees and shrubs as approved by the Owner Retain typical growth habit of individual plants. Make cuts with sharp instruments to branch collar. Do not pole or remove the leader from the trees. Remove trimmings from site.

3.04 PROTECTION AND CLEANING

A. During the installation and maintenance periods, protect planted areas against erosion and trespass. Any damaged planting shall be replaced by the Contractor at no cost to the Owner.

B. All walks and pavements shall be swept or washed clean upon completion of work in each section. Upon completion of all planting work, clean the portion of the project site used for storing planting materials and equipment of all debris, extra materials and equipment. All such materials and equipment shall be entirely removed from the project site.

3.05 MAINTENANCE PERIOD

A. Begin maintenance of all plants immediately after planting.

B. Maintain trees, shrubs and other plants until final acceptance of all contract work.

C. Maintenance Activities: Maintenance shall include measures necessary to establish and maintain plants in vigorous and healthy growing condition:
1. Plants shall be watered, fertilized, and maintained by the Contractor until physical completion of all the contract work.
2. Water shall be applied to all plants by hand until the underground irrigation system is in place and operational.
3. Cultivate and weed beds every week during maintenance period. If herbicides are used for weed control, apply in accordance with the manufacturer's instructions. Remedy any damage resulting from use of herbicides.
4. Pruning including removal of dead or broken branches and treatment of prune wounds.

5. Maintain all trees in vertically plumb position
6. Disease and insect control.
7. Maintenance of turn buckles and stakes.
8. Maintain watering wells.
9. Replace dead or dying plant material with plants of the same kind and size as specified in the plant list.

The Owner shall inspect maintenance work to verify that maintenance work has been satisfactorily undertaken and continued. The Contractor shall make all corrective measures, as directed by the Owner, prior to release of maintenance responsibilities. All maintenance work as outlined herein is incidental to each planting item, and no additional payment will be made for maintenance operations.

Final inspection and acceptance of landscape work will be made by the Owner upon notice by the Contractor of physical completion of all the contract work.

NOTE:

Maintenance Manual Submittal: Prior to Final Inspection, the Contractor shall submit a plant maintenance manual which is acceptable to the Owner.

END OF SECTION

PART 1- GENERAL

1.01 SUMMARY

Work to be done includes all labor, materials, transportation, equipment and services required to complete the soil preparation. Execute labor to achieve soil preparation, complete, as shown and as specified planting as indicated on the Construction Drawings, and as specified herein. Work includes, but is not necessarily limited to the following items: soil amendments, and mulches.

1.02 RELATED WORK

The following items of related work are specified and included in other sections of the specifications:

A. Section 32 90 00 - Planting

1.03 REFERENCES

The following standards will apply to the work of this Section:

A. MSA: Methods of Soil Analysis

B. ASTM: American Society for Testing and Materials

1.04 SUBMITTALS

A. Submit samples and detailed technical data of products proposed for use for Owner's approval according to Section 01 33 00 Submittal Procedures

B. Product data: Manufacturers' catalog cuts and current printed specifications of the following:
   1. Back-to-Earth
      Composted cotton burr
      Back to Earth Resources
      3071 Hwy 86
      Tulia TX 79088
      800/441-2498
      Fax: 806/627-4277

C. Samples:
   1. Compost, one (1) cubic foot
   2. Mulches, one (1) cubic foot each
   3. Imported soil, one (1) cubic foot

D. Testing Results:
   1. Existing native soils: samples to be taken in two locations approved by Landscape Architect.
   2. Imported Soils

E. Soil Amendments:
   1. Proposed soil amendments, for each type of plant material within each type of soil, adjusted to the results of the soils tests.

F. Certifications:

1. Certify strict compliance with accepted soil mixes and amendments, including rate of application

1.05 QUALITY ASSURANCE

A. Testing Agency: Approved by the Owner and paid for by the Contractor.

B. General: Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in air or that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and planting.

C. The work of this Section shall be performed by a Contracting firm which has successfully installed work of a similar quality, schedule requirement, and construction detailing with a minimum of five (5) years experience.

D. The Contractor shall examine all areas of work and surfaces before proceeding with any work of this section. Any defects such as incorrect grading and inadequate drainage shall be reported to the Owner prior to beginning work.

E. The Contractor shall secure Blue Stakes permit number for the project to certify notification of all utilities. The Contractor shall not commence work until Blue Stakes has responded.

F. It is the intent of this specification that all material herein specified and shown on the construction documents shall be of the highest quality available and meeting the requirements specified.

G. All work shall be performed in accordance with the best standards of practice relating to the trade.

H. The Contractor shall comply with all rules, licensing, regulations, laws and ordinance of the City, County and State, and other authorities having jurisdiction over this project site.

1.06 DEFINITIONS

A. Existing soil: Area of undisturbed native soil where no rough grading is to be done. No soil is to be placed. Only surface cultivation and soil amending are included in this Section.

B. Subgrade: Soil level resulting from the rough grading work under another Section. Cultivation of subgrade areas prior to amending is included in this section.

C. Imported Soil: Imported soil stockpiled for spreading over prepared subgrade. Soil imported and stockpiled under this Section, shall be spread and amended as work under this Section.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Imported Soil:

1. Quantity: The approximate quantity of imported soil will not be known until demolition and rough grading have been completed under earthwork. It is assumed no imported soil will be needed.

2. Composition: Fertile, friable, well-drained soil, of uniform quality, free of stones over 1 in. diameter, sticks, oils, chemicals, plaster, concrete and any other materials deleterious to healthy plant growth.
3. Analysis: Obtain an agricultural suitability analysis of the proposed soil from an accepted, accredited Testing Agency at Contractor's cost.
4. Test Results: Request Testing Agency to send one (1) copy of test results direct to the Owner and one (1) copy to the Owner. Imported soil shall be amended per soils analysis report.

2.02 SOIL MIXES

A. Plant backfill mix: Shall consist of four (4) inch depth of compost tilled in twelve (12) inches into the soil.

2.03 ACCESSORIES

A. Water: Contractor to supply as available until turn over of project to Owner. Transport may be required.

PART 3 – EXECUTION

3.01 SOIL MOISTURE CONTENT

A. General: Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in air or clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and planting.

B. Range: Maintain within 2 percent above or below optimum moisture content during the work.

3.02 CLEARING AND CULTIVATION

A. Clearing: Clear planting areas of stones 2 in. diameter and larger, weeds, debris and other extraneous materials prior to soil preparation work.

B. Cultivation of Imported Soil:

1. Cultivation: Till or loosen soil to receive planting to a depth of twelve (12) inches immediately prior to applying soil amendments.

C. Cultivation of Subgrade:

1. Verification:

a. Verify that subgrades for installation of soil have been established under rough grading. Do not spread soil prior to acceptance of subgrade work.

b. Depth: Verify that subgrades are within required subgrade tolerances.

2. Cultivation: Rip or cultivate subgrade in planting areas to a depth of twelve (12) inches immediately prior to spreading imported amended soils.

3.03 SPREADING OF AMENDED IMPORTED SOIL