

LAKE HAVASU CITY, ARIZONA DICK SAMP MEMORIAL PARK PICKLEBALL COURTS - CONSTRUCTION SET



CLIENT
LAKE HAVASU CITY
2330 MCCULLOCH BLVD N.
LAKE HAVASU CITY, ARIZONA 86403
PHONE: 928.680.5460

PROJECT NO. PK1000
SEPTEMBER 2, 2016

LANDSCAPE ARCHITECT
NORRIS DESIGN
6 E ASPEN AVE, STE 260
FLAGSTAFF, ARIZONA 86001
PHONE: 928.233.3021

CONTACT
ASSISTANT CITY ENGINEER - JEREMY ABBOTT (abbottJ@lhcaz.gov)

CONTACT
LANDSCAPE ARCHITECT - AARON HAYNE (ahayne@norris-design.com)
LANDSCAPE DESIGNER - SEAN HANBERG (shanberg@norris-design.com)

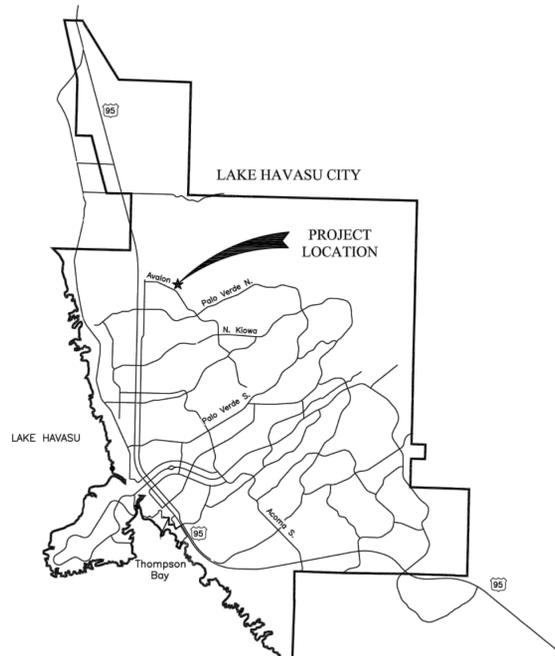
CIVIL ENGINEER
SHEPHARD WESNITZER
75 KALLOF PLACE
SEDONA, ARIZONA 86336
PHONE: 928.282.1061



STRUCTURAL ENGINEER
PK ASSOCIATES CONSULTING STRUCTURAL ENGINEERS
7434 E. McDONALD DRIVE
SCOTTSDALE, AZ 85250
PHONE: 480.922.8854

CONTACT
CIVIL ENGINEER - ART BECKWITH (abeckwith@swiaz.com)

CONTACT
STRUCTURAL ENGINEER - CLIFF PAUL (cliffp@pkstructural.com)



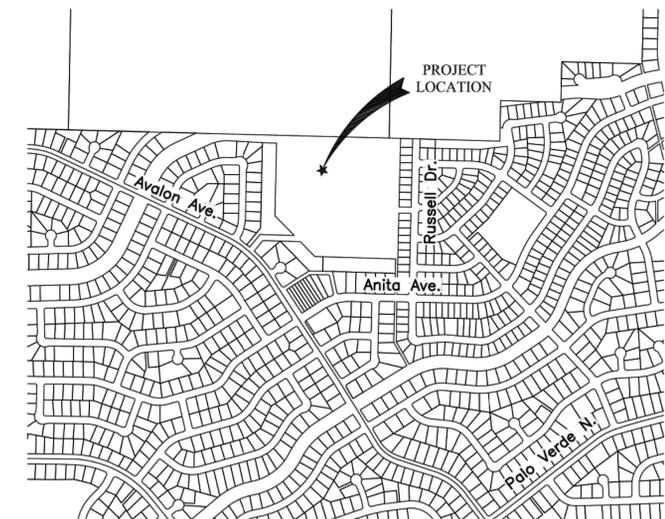
VICINITY MAP
NTS

SHEET INDEX - LANDSCAPE

SHEET #	DESCRIPTION	(09/02/2016) ISSUED FOR CONSTRUCTION
L-1	OVERALL MASTER PLAN	X
L-2	NOTES	X
L-3	SITE AMENITIES SCHEDULE	X
L-4	DEMO PLAN	X
L-5	LAYOUT PLAN	X
L-6	GRADING PLAN	X
L-7	PLANTING PLAN	X
L-8	DETAILS	X

SHEET INDEX - STRUCTURAL

SHEET #	DESCRIPTION	
S1.1	GENERAL STRUCTURAL NOTES	X
S1.2	TYPICAL DETAILS	X
S2.1	FOUNDATION PLANS & DETAILS	X



LOCATION MAP
NTS

NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

DICK SAMP MEMORIAL PARK
PICKLEBALL COURTS - CONSTRUCTION SET
PK1000
ISSUED FOR CONSTRUCTION

Designed by: AH
Drawn by: SH
Checked by: AH
Date: 08/2016
Dwg scale: AS SHOWN

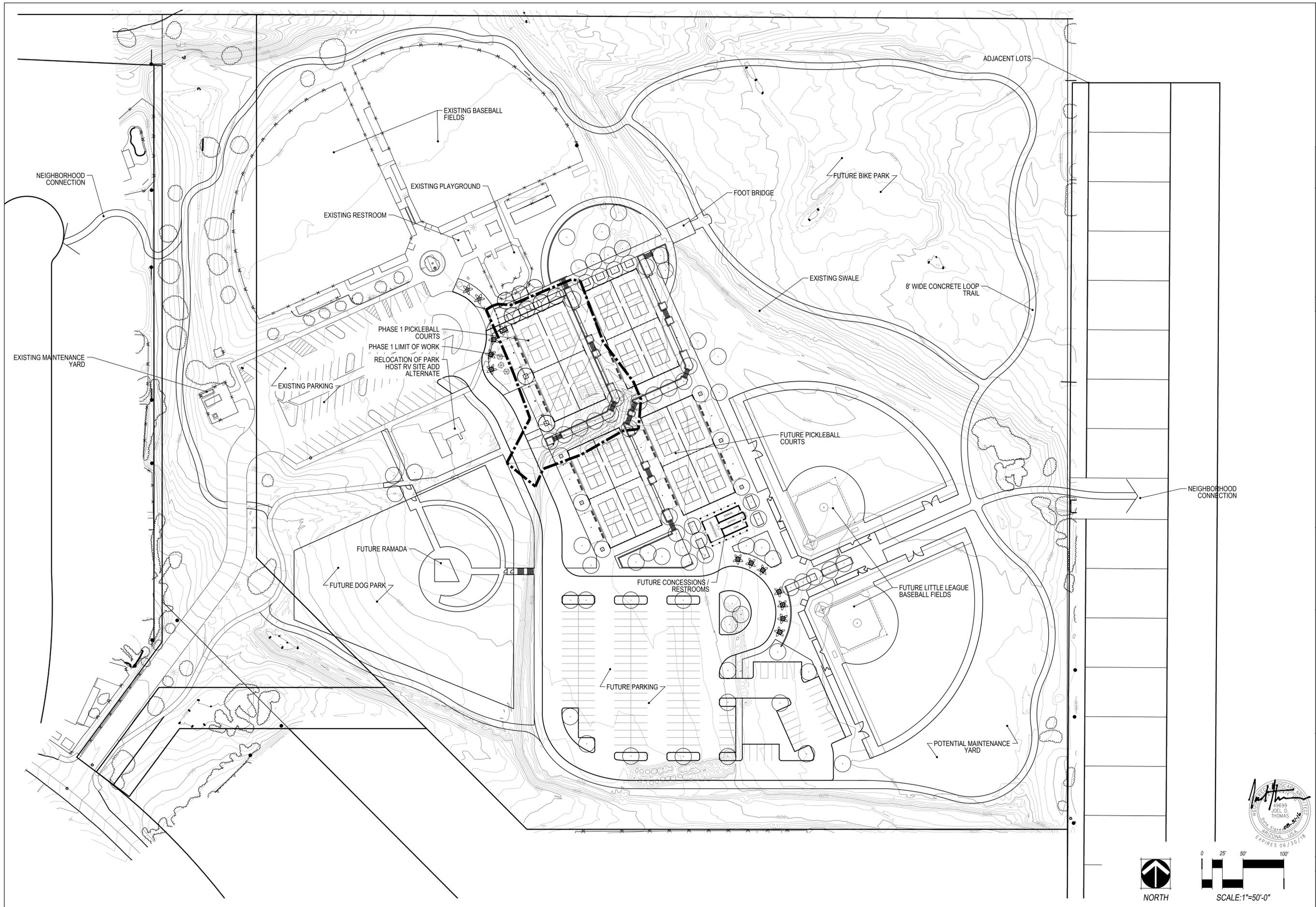


6 East Aspen Avenue
Suite 260
Flagstaff, AZ 86001
P 928.233.3021
www.norris-design.com

Sheet Number:

CS-1

Sheet



NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
PICKLEBALL COURTS - CONSTRUCTION SET
PK1000**

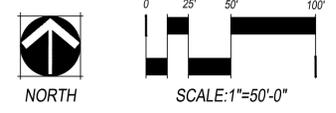
ISSUED FOR CONSTRUCTION

Designed by: AH
Drawn by: SH
Checked by: AH
Date: 09/02/2016
Dwg scale: AS SHOWN

**OVERALL
MASTER PLAN**



NORRIS DESIGN
 Planning | Landscape Architecture | Project Preparation
 6 East Aspen Avenue
 Suite 200
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com



DEMO NOTES

1. ALL UTILITIES INDICATED ON THE DRAWINGS REFLECT APPROXIMATE LOCATIONS. THE CONTRACTOR IS TO VERIFY EXACT LOCATIONS OF BOTH EXISTING AND PROPOSED UTILITIES PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO EXISTING UTILITIES, WALKWAYS OR OTHER EXISTING STRUCTURES AND IMPROVEMENTS THAT IS A RESULT OF HIS WORK. THE REPAIR OF SUCH DAMAGE WILL BE AT NO ADDITIONAL COST TO THE CITY. DOCUMENT ALL EXISTING DAMAGES PRIOR TO BEGINNING WORK. ANY DAMAGES NOT DOCUMENTED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. THE EXISTING CONDITIONS PLAN INDICATES THE APPROXIMATE LOCATIONS OF WORK ITEMS WHICH WILL BE REQUIRED AS PART OF THIS CONTRACT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE SITE AND TO VERIFY THE QUANTITIES AND LOCATIONS OF ITEMS TO BE CLEANED UP AND REMOVED.
4. ALL USEABLE SALVAGED MATERIALS TO BE TURNED OVER TO THE OWNER'S REPRESENTATIVE UNLESS OTHERWISE INDICATED.
5. SEE GENERAL CONDITIONS AND TECHNICAL SPECIFICATIONS FOR FURTHER INFORMATION AND REQUIREMENTS.
6. THE CONTRACTOR SHALL TAKE MEASURES TO PROTECT THE EXISTING TREES ON THE SITE FROM ANY DAMAGES DURING THE PROGRESS OF WORK.
7. THE CONTRACTOR IS RESPONSIBLE FOR SECURITY OF THE SITE WHEN LEFT UNATTENDED. FENCES AND OR BARRICADES SHALL BE MAINTAINED ALONG THE LIMITS OF CONSTRUCTION.
8. KEEP THE PREMISES CLEAN AND ORDERLY DURING CONSTRUCTION. DISPOSE OF ALL REMOVED MATERIALS AT AN APPROVED DUMP SITE WITHIN 24 HOURS OF REMOVAL. STOCKPILING ON THE SITE WILL BE ALLOWED ONLY WITH APPROVAL FROM THE OWNER'S REPRESENTATIVE. SCHEDULE REMOVALS TO INSURE THAT NO PARTIALLY DISASSEMBLED EQUIPMENT'S LEFT ON SITE OVERNIGHT.
9. ALL ADJACENT LANDSCAPE, UTILITIES, SIGNS AND HARDSCAPE SHALL REMAIN UNDISTURBED UNLESS SPECIFICALLY AUTHORIZED BY THE OWNER'S REPRESENTATIVE.

GRADING AND EXCAVATION NOTES

1. THE CONTRACTOR IS TO REVIEW, UNDERSTAND AND ADHERE TO SPOT ELEVATIONS AND CONTOURS AS INDICATED ON THE GRADING PLAN UNLESS SPECIFICALLY AUTHORIZED BY THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL VERIFY THAT ALL MINIMUM AND MAXIMUM SLOPES IDENTIFIED ON THE PLANS ARE ACHIEVABLE IN THE FIELD PRIOR TO START OF WORK.
2. DUE TO THIS SITES HISTORY OF BEING A LANDFILL THERE IS A POSSIBILITY OF ENCOUNTERING METAL WASTE WHILE DIGGING. THE CONTRACTOR SHALL DIG ALL FOOTER LOCATIONS FOR THIS PHASE OF WORK PRIOR TO ANY FINISH WORK SUCH AS CONCRETE WORK, SETTING POSTS, OR LANDSCAPE INSTALLATION. ANY ISSUES DURING THESE DIGS SHALL REPORTED TO THE OWNER IMMEDIATELY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL STAKING NECESSARY TO COMPLETE THE WORK. THIS SHALL INCLUDE ANY RE-STAKING IF NECESSARY. THE CONTRACTOR SHALL PAY FOR ALL STAKING FOR THE PROJECT UNLESS SPECIFICALLY AGREED TO OTHERWISE IN THE CONTRACT DOCUMENTS.
4. ALL AREAS SHALL BE GRADED TO ACHIEVE POSITIVE DRAINAGE. MINIMUM SLOPE ON LANDSCAPED AREAS SHALL BE 1%; MAXIMUM SLOPE SHALL BE 33% (3:1) UNLESS OTHERWISE INDICATED ON THE PLANS.
5. MAXIMUM ALLOWED FINAL GRADES FOR LONGITUDINAL SLOPE ON WALKS AND PAVED AREAS SHALL BE 5% UNLESS OTHERWISE INDICATED ON THE PLANS.
6. ALL FINAL GRADES FOR WALKS SHALL HAVE A MINIMUM 0.9% CROSS SLOPE AND MAXIMUM 2% CROSS SLOPE UNLESS OTHERWISE INDICATED ON THE PLANS.
7. EXCAVATION INCLUDES ALL MATERIAL ENCOUNTERED TO WHATEVER DEPTH INDICATED ON THE PLANS. EXCAVATE TO ALLOW FOR PROPER FILL MATERIAL, SLABS, VOIDS, FORMS, AND FOUNDATIONS.
8. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING GRADING AND EXCAVATION INCLUDING GUIDELINES AND RESTRICTIONS FOR EARTHWORK AND PLACING OF PAVEMENT AND LANDSCAPE SURFACING FOR THIS PROJECT.
9. CONTRACTOR SHALL ENSURE THEIR COMPLETED GRADES ARE WITHIN 1/8" OF A FOOT WHEN COMPLETED WITH WORK.
10. ALL AREAS THAT HAVE BEEN GRADED THAT WILL NOT RECEIVE CONCRETE SURFACING OR ROCK MULCH SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER WITH APPROVED EROSION CONTROL MEASURES IN PLACE.

GENERAL NOTES

1. THESE PLANS SHALL NOT BE UTILIZED FOR CONSTRUCTION OR PERMITTING UNLESS STATED FOR SUCH USE IN THE TITLE BLOCK.
2. DRAWINGS ARE INTENDED TO BE PRINTED ON 24" X 36" PAPER. PRINTING THESE DRAWINGS AT A DIFFERENT SIZE WILL IMPACT THE SCALE. VERIFY THE GRAPHIC SCALE BEFORE REFERENCING ANY MEASUREMENTS ON THESE SHEETS. THE RECIPIENT OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR ANY ERRORS RESULTING FROM INCORRECT PRINTING, COPYING, OR ANY OTHER CHANGES THAT ALTER THE SCALE OF THE DRAWINGS.
3. VERIFY ALL PLAN DIMENSIONS PRIOR TO START OF CONSTRUCTION. NOTIFY THE OWNER'S REPRESENTATIVE TO ADDRESS ANY QUESTIONS OR CLARIFY ANY DISCREPANCIES.
4. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
5. SUBMIT A CHANGE ORDER FOR APPROVAL FOR ANY CHANGES TO WORK SCOPE RESULTING FROM FIELD CONDITIONS OR DIRECTION BY OWNER'S REPRESENTATIVE WHICH REQUIRE ADDITIONAL COST TO THE OWNER PRIOR TO PERFORMANCE OF WORK.
6. THE CONTRACTOR SHALL PROVIDE A STAKED LAYOUT OF ALL SITE IMPROVEMENTS FOR INSPECTION BY THE OWNER'S REPRESENTATIVE AND MAKE MODIFICATIONS AS REQUIRED. ALL LAYOUT INFORMATION IS AVAILABLE IN DIGITAL FORMAT FOR USE BY THE CONTRACTOR.
7. IF A GEOTECHNICAL SOILS REPORT IS NOT AVAILABLE AT THE TIME OF BIDDING, THE CONTRACTOR SHALL USE THESE CONTRACT DOCUMENTS AS A BASIS FOR THE BID. ONCE A GEOTECHNICAL REPORT IS AVAILABLE DETAILS FOR THE POST TENSION SLAB SHALL BE MODIFIED IF NECESSARY AND THE CONTRACTOR WILL THEN ASSESS COST IMPACTS AND PROVIDE A CHANGE ORDER IF NECESSARY.
8. CONTRACTOR SHALL CONFIRM THAT SITE CONDITIONS ARE SIMILAR TO THE PLANS, WITHIN TOLERANCES STATED IN THE CONTRACT DOCUMENTS, AND SATISFACTORY TO THE CONTRACTOR PRIOR TO START OF WORK. SHOULD SITE CONDITIONS BE DIFFERENT THAN REPRESENTED ON THE PLANS OR UNSATISFACTORY TO THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE FOR CLARIFICATION AND FURTHER DIRECTION.
9. CONTRACTOR IS RESPONSIBLE TO PAY FOR, AND OBTAIN, ANY REQUIRED APPLICATIONS, PERMITTING, LICENSES, INSPECTIONS AND METERS ASSOCIATED WITH WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO ANY VIOLATIONS OR NON-CONFORMANCE WITH THE PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS, JURISDICTIONAL CODES, AND REGULATORY AGENCIES.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL UTILITY LOCATES PRIOR TO ANY EXCAVATION. REFER TO ENGINEERING UTILITY PLANS FOR ALL PROPOSED UTILITY LOCATIONS AND DETAILS. NOTIFY OWNER'S REPRESENTATIVE IF EXISTING OR PROPOSED UTILITIES INTERFERE WITH THE ABILITY TO PERFORM WORK.
12. UNLESS IDENTIFIED ON THE PLANS FOR DEMOLITION OR REMOVAL, THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT OR EXISTING LANDSCAPE, ADJACENT OR EXISTING PAVING, OR ANY PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION, ESTABLISHMENT OR DURING THE SPECIFIED MAINTENANCE PERIOD. ALL DAMAGES SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS AS DETERMINED BY THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOGGING ANY DAMAGES PRIOR TO START OF CONSTRUCTION AND DURING THE CONTRACT PERIOD.
13. ALL WORK SHALL BE CONFINED TO THE AREA WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS. ANY AREAS OR IMPROVEMENTS DISTURBED OUTSIDE THESE LIMITS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. IN THE EVENT THE CONTRACTOR REQUIRES A MODIFICATION TO THE CONSTRUCTION LIMITS, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER'S REPRESENTATIVE PRIOR TO ANY DISTURBANCE OUTSIDE OF THE LIMITS OF WORK.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
15. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN TO THE APPROPRIATE JURISDICTIONAL AGENCIES AND THE OWNER'S REPRESENTATIVE IF THEIR WORK AND OPERATIONS AFFECT OR IMPACT THE PUBLIC RIGHTS-OF-WAY. OBTAIN APPROVAL PRIOR TO ANY WORK WHICH AFFECTS OR IMPACTS THE PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THIS REQUIREMENT DURING THE CONTRACT PERIOD.
16. SIGHT TRIANGLES AND SIGHT LINES SHALL REMAIN UNOBSTRUCTED BY EQUIPMENT, CONSTRUCTION MATERIALS, PLANT MATERIAL OR ANY OTHER VISUAL OBSTACLE DURING THE CONTRACT PERIOD AND AT MATURITY OF PLANTS PER LOCAL JURISDICTIONAL REQUIREMENTS. NO PLANT MATERIAL OTHER THAN GROUND COVER IS ALLOWED TO BE PLANTED ADJACENT TO FIRE HYDRANTS AS STIPULATED BY JURISDICTIONAL REQUIREMENTS.
17. COORDINATE SITE ACCESS, STAGING, STORAGE AND CLEANOUT AREAS WITH OWNER'S REPRESENTATIVE.
18. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY SAFETY FENCING AND BARRIERS AROUND ALL IMPROVEMENTS SUCH AS WALLS, PLAY STRUCTURES, EXCAVATIONS, ETC. ASSOCIATED WITH THEIR WORK UNTIL SUCH FACILITIES ARE COMPLETELY INSTALLED PER THE PLANS, SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THEIR MATERIAL STOCK PILES AND WORK FROM VANDALISM, EROSION OR UNINTENDED DISTURBANCE DURING THE CONSTRUCTION PERIOD AND UNTIL FINAL ACCEPTANCE IS ISSUED.
20. FOR ENVIRONMENTAL CONTROL MEASURES THE CONTRACTOR SHALL PROVIDE A PLAN FOR BMP'S TO THE OWNER PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL INSTALL AND MAINTAIN BMP'S AS APPROVED BY THE OWNER.
21. MAINTAIN ANY STORM WATER MANAGEMENT FACILITIES THAT EXIST ON SITE FOR FULL FUNCTIONALITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER FOR FAILURE TO MAINTAIN STORM WATER MANAGEMENT FACILITIES DURING THE CONTRACT PERIOD.
22. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM EXITING THE SITE OR ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THESE REQUIREMENTS DURING THEIR CONTRACTED COURSE OF WORK.
23. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREVENT ANY IMPACTS TO ADJACENT WATERWAYS, WETLANDS, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS RESULTING FROM WORK DONE AS PART OF THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THESE STANDARDS DURING THEIR CONTRACTED COURSE OF WORK.
24. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL INSURE THAT ALL LOADS OF CONSTRUCTION MATERIAL IMPORTED TO OR EXPORTED FROM THE PROJECT SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF MATERIAL DURING TRANSPORT. TRANSPORTATION METHODS ON PUBLIC RIGHT-OF WAYS SHALL CONFORM TO JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THESE REQUIREMENTS.
25. THE CLEANING OF EQUIPMENT IS PROHIBITED AT THE JOB SITE UNLESS AUTHORIZED BY THE OWNER'S REPRESENTATIVE IN A DESIGNATED AREA. THE DISCHARGE OF WATER, WASTE CONCRETE, POLLUTANTS, OR OTHER MATERIALS SHALL ONLY OCCUR IN AREAS DESIGNATED FOR SUCH USE AND APPROVED BY THE OWNER'S REPRESENTATIVE.
26. THE CLEANING OF CONCRETE EQUIPMENT IS PROHIBITED AT THE JOB SITE EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE IN THE STORM SEWER IS PROHIBITED.
27. OPEN SPACE SWALES: IF SWALES ARE EXISTING ON SITE AND ARE NOT INTENDED TO BE MODIFIED AS PART OF THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE CONVEYANCE OF WATER WITHIN THE SWALES DURING THE CONTRACT PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DIVERSION OR PUMPING OF WATER IF REQUIRED TO COMPLETE WORK. ANY SWALES DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED/RESTORED TO THEIR ORIGINAL CONDITION. IF THE SWALE NEEDS TO BE DISTURBED OR MODIFIED FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO DISTURBANCE.
28. DETENTION AND WATER QUALITY PONDS: IF DETENTION PONDS AND WATER QUALITY PONDS ARE EXISTING ON SITE AND ARE NOT INTENDED TO BE MODIFIED AS PART OF THE PLANS, THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE PONDS, DRAINAGE STRUCTURES AND SPILLWAYS DURING CONSTRUCTION. ALL PONDS, DRAINAGE STRUCTURES AND SPILLWAYS SHALL BE MAINTAINED IN OPERABLE CONDITIONS AT ALL TIMES. ANY POND OR SPILLWAY AREAS DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED/RESTORED TO THEIR ORIGINAL CONDITION. IF THE POND NEEDS TO BE DISTURBED OR MODIFIED FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO DISTURBANCE.
29. MAINTENANCE ACCESS BENCHES: IF MAINTENANCE BENCHES OR ACCESS ROADS EXIST ON SITE AND ARE NOT INTENDED TO BE MODIFIED AS PART OF THE PLANS, THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE BENCHES OR ACCESS ROADS DURING CONSTRUCTION. ANY BENCHES OR ACCESS ROADS DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED/RESTORED TO THEIR ORIGINAL CONDITION. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING BENCHES AND ACCESS ROADS DURING THE CONSTRUCTION PERIOD. IF ACCESS NEEDS TO BE BLOCKED FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INTERRUPTION OF ACCESS.
30. LOCAL, STATE AND FEDERAL JURISDICTIONAL REQUIREMENTS, RESTRICTIONS OR PROCEDURES SHALL SUPERSEDE THESE PLANS, NOTES AND SPECIFICATIONS WHEN MORE STRINGENT. NOTIFY THE OWNER'S REPRESENTATIVE IF CONFLICTS OCCUR.



NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
PICKLEBALL COURTS - CONSTRUCTION SET
PK1000
ISSUED FOR CONSTRUCTION**

Designed by: AH	Drawn by: SH	Checked by: AH	Date: 09/02/2016	Dwg scale: AS SHOWN
-----------------	--------------	----------------	------------------	---------------------

NOTES

6 East Aspen Avenue
Suite 200
Flagstaff, AZ 86001
P 928.233.3021
www.norris-design.com



Sheet Number:

SITE AMENITIES SCHEDULE

ITEM	DESCRIPTION	QTY.	MANUFACTURER	CONTACT	MODEL NUMBER	COLOR	NOTES
1	PICKLEBALL POST	4 PAIR	WILSON (OR APPROVED EQUAL)	PICKLEBALL CENTRAL pickleballcentral.com 888-584-0163	WILSON HEAVY DUTY PICKLEBALL POSTS - MODEL 3441W WITH PVC SLEEVING FOR TEMPORARY REMOVAL MODEL 3111W 2-7/8	BLACK	REFER TO DETAIL 6/L-8 CONTRACTOR SHALL READ AND UNDERSTAND THE INSTRUCTIONS PROVIDED ON THE WEBSITE PRIOR TO ANY WORK ASSOCIATED WITH INSTALLING THESE POSTS
2	PICKLEBALL NET	4	WILSON (OR APPROVED EQUAL)	PICKLEBALL CENTRAL pickleballcentral.com 888-584-0163	WILSON HEAVY DUTY PICKLEBALL NET - MODEL 3578W	BLACK	CONTRACTOR SHALL READ AND UNDERSTAND THE INSTRUCTIONS PROVIDED ON THE WEBSITE PRIOR TO WORK ASSOCIATED WITH INSTALLING THE NET



NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
PICKLEBALL COURTS - CONSTRUCTION SET
PK1000
ISSUED FOR CONSTRUCTION**

Designed by: AH
 Drawn by: SH
 Checked by: AH
 Date: 09/02/2016
 Dwg scale: AS SHOWN

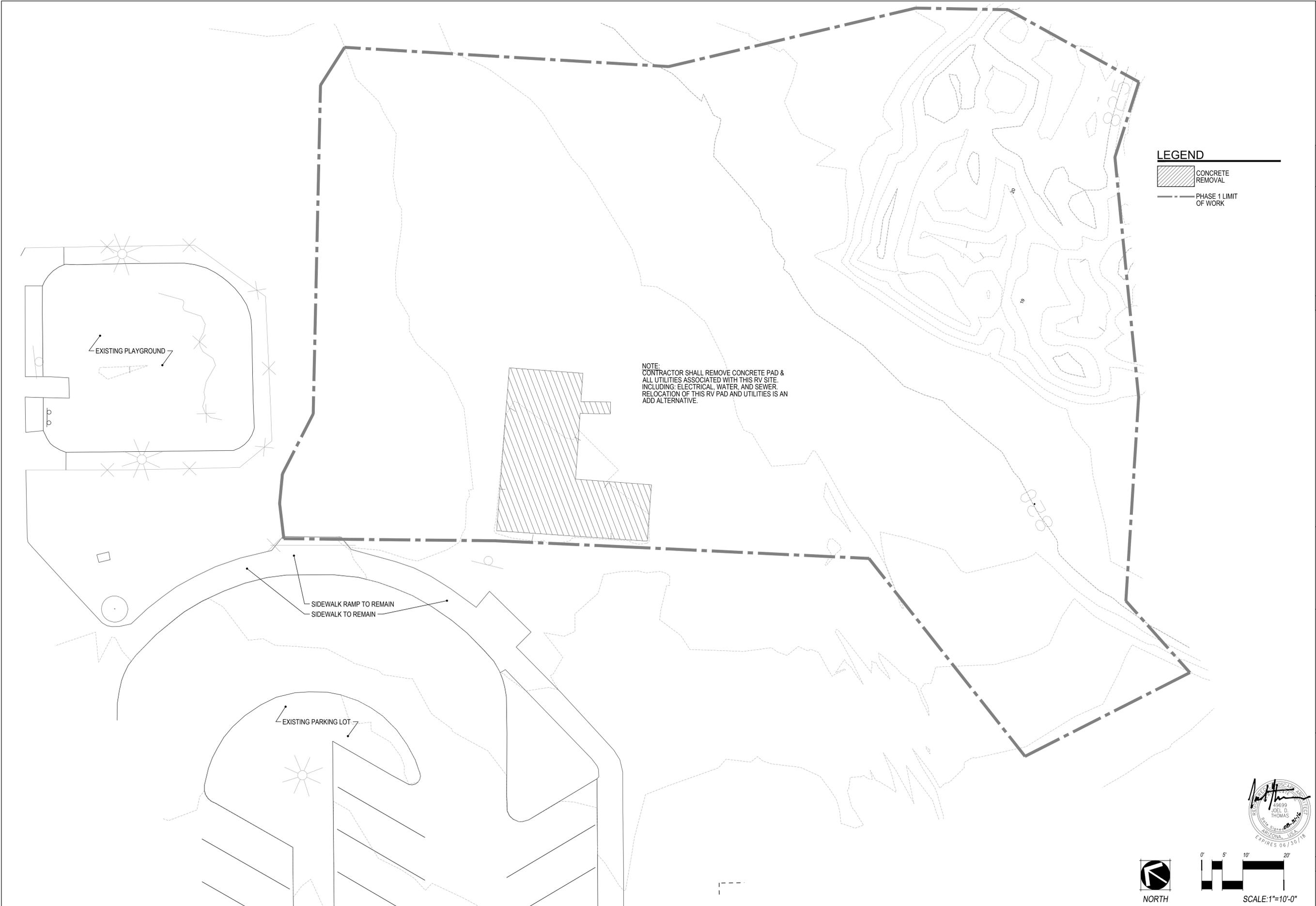
**SITE AMENITIES
SCHEDULE**



NORRIS DESIGN
 Planning | Landscape Architecture | Project Presentation
 6 East Aspen Avenue
 Suite 260
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com



Sheet Number:



LEGEND

CONCRETE REMOVAL

PHASE 1 LIMIT OF WORK

NOTE:
 CONTRACTOR SHALL REMOVE CONCRETE PAD &
 ALL UTILITIES ASSOCIATED WITH THIS RV SITE.
 INCLUDING ELECTRICAL, WATER, AND SEWER.
 RELOCATION OF THIS RV PAD AND UTILITIES IS AN
 ADD ALTERNATIVE.

NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
 PICKLEBALL COURTS - CONSTRUCTION SET
 PK1000
 ISSUED FOR CONSTRUCTION**

Designed by: AH
Drawn by: SH
Checked by: AH
Date: 09/02/2016
Dwg scale: AS SHOWN

DEMO PLAN

SWI
 Shephard & Wesnitzer, Inc.

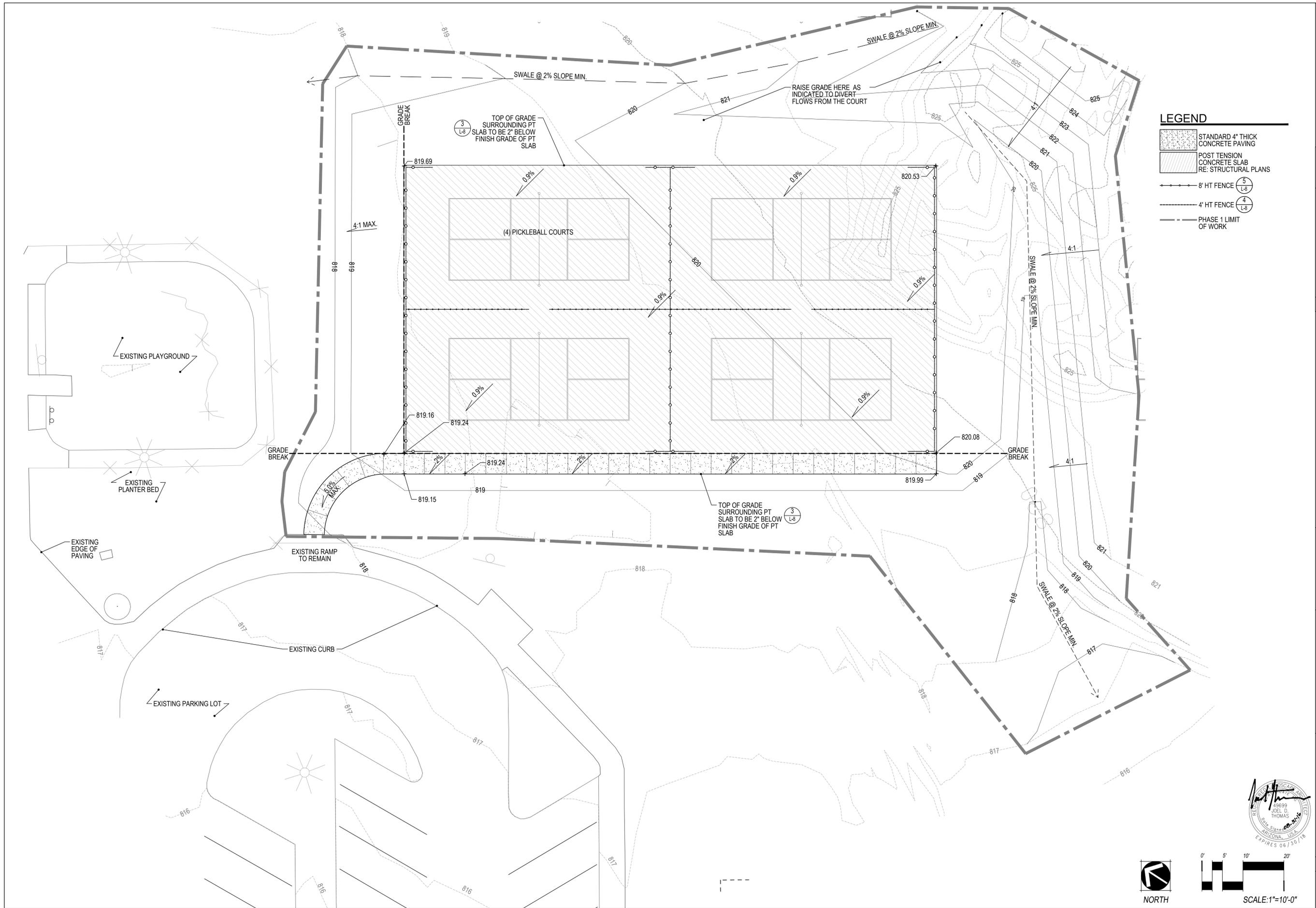
NORRIS DESIGN
 Planning | Landscape Architecture | Project Preparation

6 East Aspen Avenue
 Suite 200
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com



NORTH

SCALE: 1"=10'-0"



LEGEND

- STANDARD 4" THICK CONCRETE PAVING
- POST TENSION CONCRETE SLAB RE: STRUCTURAL PLANS
- 8' HT FENCE (5 L-8)
- 4' HT FENCE (4 L-8)
- PHASE 1 LIMIT OF WORK

NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
PICKLEBALL COURTS - CONSTRUCTION SET
PK1000
ISSUED FOR CONSTRUCTION**

Designed by: AH
 Drawn by: SH
 Checked by: AH
 Date: 09/02/2016
 Dwg scale: AS SHOWN

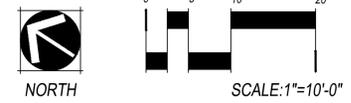
GRADING PLAN



NORRIS DESIGN
 Planning | Landscape Architecture | Project Preparation
 6 East Aspen Avenue
 Suite 250
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com

Sheet Number:

L-6
 Sheet 6 of 8



LEGEND
 [Stippled Area] GRADED AREA RESTORED TO ORIGINAL CONDITION. CONTRACTOR SHALL ALSO INSTALL APPROVED BMP'S
 [Dashed Line] PHASE 1 LIMIT OF WORK

TOP OF GRADE SURROUNDING PT. SLAB TO BE 2" BELOW FINISH GRADE OF PT. SLAB.

(4) PICKLEBALL COURTS

TOP OF GRADE SURROUNDING PT. SLAB TO BE 2" BELOW FINISH GRADE OF PT. SLAB

EXISTING PLAYGROUND

EXISTING DROP OFF

NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
 PICKLEBALL COURTS - CONSTRUCTION SET
 PK1000
 ISSUED FOR CONSTRUCTION**

Designed by: AH
 Drawn by: SH
 Checked by: AH
 Date: 09/02/2016
 Dwg scale: AS SHOWN

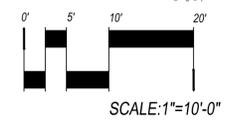
PLANTING PLAN

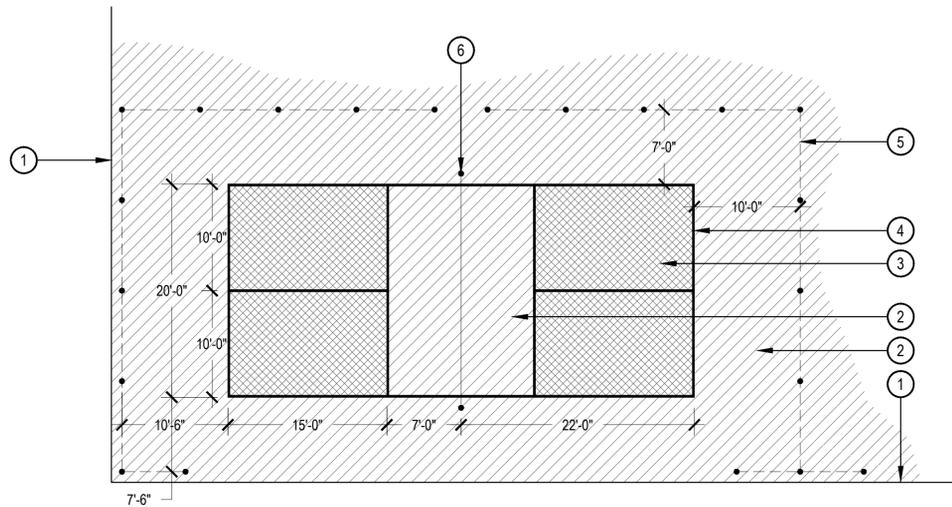
SWI
 Shephard & Wesnitzer, Inc.

NORRIS DESIGN
 Planning | Landscape Architecture | Project Preparation
 6 East Aspen Avenue
 Suite 200
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com

Sheet Number:

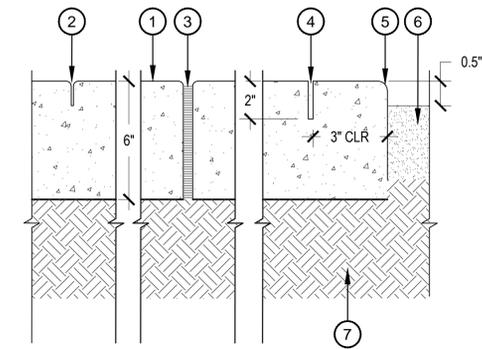
L-7
 Sheet 7 of 8





NOTES:
 1. THIS DETAIL IS FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL PREPARE THE POST TENSION CONCRETE SLAB SURFACE AND INSTALL COURT SURFACING AND STRIPING IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS PROVIDED AND THE USAPA PICKLEBALL STANDARDS: usapa.org
 2. SURFACING SHALL BE ACRYLOTEX FOR PICKLEBALL COURTS BY CALIFORNIA SPORTS SURFACES, REFER TO SPECIFICATIONS.
 3. CONTRACTOR SHALL SUBMIT AVAILABLE COLORS FOR OWNERS SELECTION & APPROVAL

- ① EDGE OF POST-TENSION SLAB AND END OF PICKLEBALL COURT SURFACING
- ② PICKLEBALL COURT SURFACING COLOR #1 (COLOR T.B.D.) TO COVER ALL OF PT SLAB EXCEPT FOR WHERE COLOR #2 IS INDICATED
- ③ PICKLEBALL COURT SURFACING COLOR #2 (COLOR T.B.D.)
- ④ 2" WIDE WHITE LINES ON PICKLEBALL COURT SURFACING
- ⑤ VINYL COATED CHAIN LINK PICKLEBALL FENCING
- ⑥ NET POSTS AND NET



NOTES:
 1. C.I.P. CONCRETE PER PLANS AND SPECS. CONTROL JOINTS AS SHOWN ON PLANS WITH EXPANSION JOINTS @ 25' O.C. MAX. OR WHERE NOTED.
 2. ALL CONTROL JOINTS SHALL BE SAW CUT FOR THIS PROJECT UNLESS NOTED OTHERWISE ON THE LAYOUT PLAN.
 3. REFER TO LAKE HAVASU CITY STANDARD MAG SPECIFICATION SECTION 03300 & 03310 FOR MORE INFORMATION.

- ① 4" THICK CONCRETE PAVING FINISH AS NOTED ON HARDSCAPE PLANS 4,000 PSI MIN.
- ② TOOLED JOINT, 1/4" RADIUS SPACE EQUAL TO WIDTH OF WALK UNLESS NOTED OTHERWISE. DEPTH TO 1/3" CONCRETE THICKNESS MIN.
- ③ FIBER EXPANSION JOINT WITH TRAFFIC SEALANT
- ④ SAW CUT JOINT, 1/4" X 2" DEPTH. DRY CUT JOINT TO AVOID SPALLING. JOINTS SHALL BE CUT BETWEEN 24-48 HOURS OF INSTALLATION
- ⑤ 1/4" RADIUS TOOL EDGE
- ⑥ FINISHED GRADE OF SEE LANDSCAPE PLAN. BACKFILL AFTER FORM REMOVAL.
- ⑦ 95% COMPACTED SUBGRADE

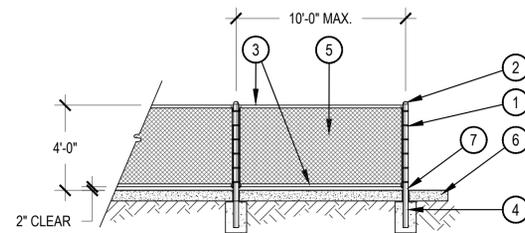
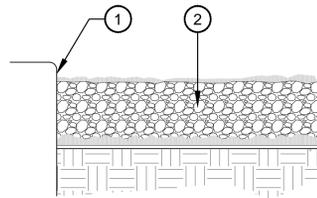
1 PICKLEBALL COURT SURFACING

SCALE: 1/8" = 1'-0"

2 CONCRETE PAVING

SCALE: 3" = 1'-0"

- ① 2" REVEAL ON ALL PAVED SURFACES - GRADE FOR MATERIAL DEPTH AND REVEAL
- ② EXISTING ROCK MATERIAL TO BE RESTORED TO ORIGINAL CONDITION



- ① LINE, TERMINAL AND GATE POSTS TO BE 2-7/8" O.D. PAINTED BLACK
- ② CAPS WELDED IN PLACE PAINTED BLACK
- ③ TOP & BOTTOM RAIL 1 1/2" O.D. PIPE, WELDED IN PLACE PAINTED BLACK
- ④ SET POSTS IN POST TENSION SLAB TURNDOWNS PER STRUCTURAL DRAWINGS
- ⑤ MESH - BLACK VINYL COATED
- ⑥ POST TENSION SLAB PER STRUCTURAL DRAWINGS
- ⑦ 1/2" CAULKED / SEALED EXPANSION JOINT MATERIAL AROUND ALL FENCE POSTS

NOTES:
 1. SEE TECHNICAL SPECIFICATIONS FOR MORE INFORMATION
 2. FENCING CONTRACTOR & CONCRETE CONTRACTOR SHALL COORDINATE PRIOR TO FENCING & CONCRETE WORK

3 REVEAL

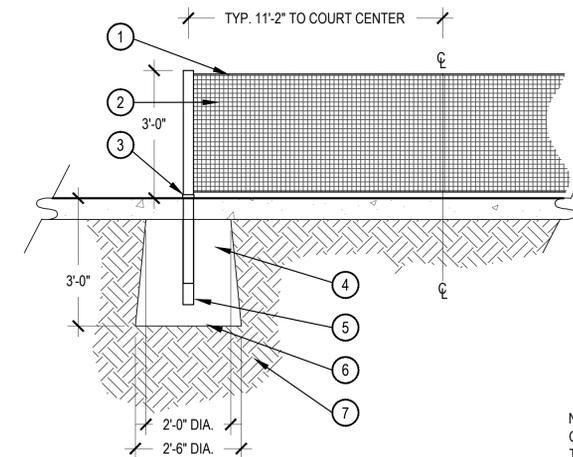
SCALE: 3" = 1'-0"

4 4' CHAINLINK FENCE

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

5 8' CHAINLINK FENCE

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



- ① 2 1/2" DIAMETER PICKLEBALL NET POST WITH EXTERNAL NET TIGHTENER - SEE SITE AMENITIES SCHEDULE
- ② PICKLEBALL NET - SEE SITE AMENITIES SCHEDULE
- ③ POST COLLAR
- ④ CONCRETE FOOTER - SET LOW TO ALLOW FOR POST TENSION SLAB
- ⑤ NET POST PVC SLEEVE - SEE SITE AMENITIES SCHEDULE
- ⑦ COMPACTED SUB-GRADE

NOTE:
 CONTRACTOR SHALL READ AND UNDERSTAND THE INSTRUCTIONS PROVIDED ON THE MANUFACTURER'S WEB-SITE PRIOR TO WORK ASSOCIATED WITH INSTALLING THE NET POSTS AND NET.

6 NET POSTS

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

NO.	REVISIONS / SUBMISSIONS	DATE
#		
#		
#		
#		

DICK SAMP MEMORIAL PARK
 PICKLEBALL COURTS - CONSTRUCTION SET
 PK1000
 ISSUED FOR CONSTRUCTION

Designed by: AH	Drawn by: SH	Checked by: AH	Date: 09/02/2016	Dwg scale: AS SHOWN
-----------------	--------------	----------------	------------------	---------------------

DETAILS



6 East Aspen Avenue
 Suite 260
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com

Sheet Number:

L-8
 Sheet 8 of 8



GENERAL STRUCTURAL NOTES

APPLY UNLESS NOTED OTHERWISE

BUILDING CODE:

2012 EDITION OF THE INTERNATIONAL BUILDING CODE.

LOADS:

FLOOR LIVE LOAD = 100 PSF.

FOUNDATIONS:

GEOTECH REPORT NOT AVAILABLE FOR THE DESIGN OF THE STRUCTURAL SLAB. THE STRUCTURAL DESIGN OF THE POST TENSION SLAB IS BASED ON ASSUMED VALUES.

CONCRETE:

MINIMUM 28 DAY STRENGTH 3,000 PSI EXCEPT AS FOLLOWS: (TYPE II, U.N.O.)

POST-TENSIONED SLABS ON GRADE-----	3,500 PSI
FOUNDATIONS-----	3,000 PSI

MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, ETC. MAXIMUM SLUMP 4 1/2" FOR CONCRETE WITHOUT PLASTOIZER. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL. CAST CLOSURE POUR AROUND COLUMNS AFTER COLUMN DEAD LOAD IS APPLIED. UNLESS APPROVED OTHERWISE IN WRITING BY THE ARCHITECT, ALL CONCRETE SLABS ON GRADE SHALL BE BOUND BY CONTROL JOINTS (KEYED OR SAW CUT), SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 225 SQUARE FEET. KEYED CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING, ALL OTHER JOINTS MAY BE SAW CUT. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS FOR APPROVAL PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS AND SPECIFICATION FOR SPECIAL SLAB TREATMENTS AND VAPOR BARRIERS REQUIRED FOR FINISH FLOORING.

REINFORCING:

ASTM A615 (Fy = 60 KSI) DEFORMED BARS FOR ALL BARS. ALL GRADE 60 REINFORCING TO BE WELDED SHALL BE ASTM A706. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. LATEST ACI CODE AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH -----	3"
EXPOSED TO EARTH OR WEATHER -----	2"
#6 OR LARGER -----	1 1/2"
#5 AND SMALLER -----	1 1/2"
COLUMNS (TO TIES) -----	1 1/2"
BEAMS (TO STIRRUPS) -----	1 1/2"
FLAT SLAB -----	3/4"
ALL OTHER PER LATEST EDITION OF ACI 318.	

LAP SPLICES IN CONCRETE:

LAP SPLICES, UNLESS NOTED OTHERWISE, SHALL BE CLASS "B" TENSION LAP SPLICES PER LATEST EDITION OF ACI 318. LAP SPLICES IN CONCRETE COLUMNS SHALL BE STANDARD COMPRESSION LAP SPLICES. STAGGER SPLICES A MINIMUM OF ONE LAP LENGTH. LAPS IN WELDED WIRE FABRIC SHALL BE MADE SO THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES. ALL WELDED WIRE FABRIC SHALL BE CHAIRED TO ENSURE PROPER CLEARANCES.

ALL SPLICE LOCATIONS SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. REINFORCING BAR SPACING GIVEN ARE MAXIMUM ON CENTERS. ALL BARS PER CRS SPECIFICATIONS AND HANDBOOK. DOWEL ALL VERTICAL REINFORCING TO FOUNDATION WITH STANDARD 90-DEGREE HOOKS UNLESS NOTED OTHERWISE. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE. CONCRETE COLUMN DOWEL EMBEDMENT SHALL BE A STANDARD COMPRESSION DOWEL WITH EMBEDMENT LENGTH ACCORDING TO THE LATEST EDITION OF THE ACI 318. (UNLESS NOTED OTHERWISE ON PLANS OR DETAILS).

POST TENSIONING:

AT TRANSFER OF POST-TENSIONING, CONCRETE STRENGTH SHALL BE 3,000 PSI MINIMUM.

THE INSTALLATION AND OPERATION OF ALL POST-TENSIONING SHALL BE IN ACCORDANCE WITH 5th ED. OF 2012 BUILDING CODE, ACI 318 LATEST EDITION, AND POST-TENSIONING MANUAL (PTI) LATEST EDITION.

POST TENSION FOR SLABS AND FOUNDATION ON GRADE:

1. INFORMATION THIS SECTION APPLIES ONLY TO THE CONSTRUCTION OF POST-TENSIONED CONCRETE SLABS AND FOUNDATIONS ON GRADE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR EMBEDDED HARDWARE, ANCHOR BOLTS, HOLDOWNS, POST BASES, ETC. DESIGNED BY OTHERS. ITEMS NOT SPECIFICALLY DIMENSIONED ON THE PLANS SUCH AS INTERIOR SHEAR WALLS, POSTS, HOLDOWNS, ETC. SHALL BE LOCATED ACCORDING TO APPROVED ARCHITECTURAL PLANS AND DETAILS.

2. INTERIOR TENDON LOCATIONS (AWAY FROM EDGE OF SLAB OR OPENING) ARE TO BE PLACED AT THE APPROXIMATE LOCATION DIMENSIONED ON PLAN. TENDONS MAY BE MOVED LATERALLY APPROXIMATELY 8 INCHES FROM GIVEN DIMENSIONS TO AVOID EMBEDS, BLOCKOUTS ETC. TENDON LOCATIONS NOT DIMENSIONED ON PLANS SHALL BE PLACED AT APPROXIMATELY EQUAL SPACES BETWEEN DIMENSIONED CONTROL POINTS.

3. ALL TENDON OVERLAPS SHALL BE CENTERED IN DEPTH OF CONCRETE SLAB UNLESS NOTED OTHERWISE.

4. REMOVE PLASTIC TENDON SHEATHING WITHIN 3 INCHES OF BACK OF ANCHOR. SECURE THE DEAD ENDS AND STRESSING ENDS TO FORM BOARDS WITH NAILS. PROVIDE PROPER CONCRETE COVERAGE PER DEAD END ANCHORAGE DETAILS.

5. SECURE ALL TENDONS AT EACH INTERSECTION WITH THE APPROPRIATE CHAIR OR DOBBIE BLOCKS. PLASTIC CHAIRS WHICH PROVIDE SADDLE OR SIDE CLIPS FOR THE TENDONS NEED ONLY BE TIED AT EVERY THIRD TENDON INTERSECTION. DOBBIE BLOCK OR OTHER CHAIRS WHICH ALLOW TENDONS TO MOVE LATERALLY SHALL BE TIED AT EACH TENDON INTERSECTION. TIE ALL TENDON INTERSECTIONS AT THE PERIMETER OF THE SLAB.

6. PLACEMENT OF MILD STEEL REINFORCEMENT SHALL BE COORDINATED WITH PLACEMENT OF POST-TENSIONING TENDONS. PROPER TENDON PLACEMENT HAS PRIORITY.

7. CONCRETE CONTRACTOR SHALL ENSURE THAT WORKMEN EXERCISE GREAT CARE SO AS NOT TO DISTURB LOCATIONS OF TENDONS DURING CONCRETE PLACEMENT.

8. TENDON STRESSING MAY PROCEED WHEN THE CONCRETE STRENGTH OBTAINS A MINIMUM OF 2500 PSI. CONTRACTOR MAY INCREASE SPECIFIED SLAB STRENGTH AS NEEDED FOR STRESSING SCHEDULE TO MEET THIS REQUIREMENT. STRESS SLABS AS EARLY AS POSSIBLE TO REDUCE SHRINKAGE CRACKS. STRESS ALL TENDONS BEFORE PLACING SECOND STORY FLOOR SHEATHING OR ROOF SHEATHING ON THE FRAMED STRUCTURE. PARTIAL STRESSING (25% OF ALL TOTAL FORCE) THE DAY AFTER CONCRETE PLACEMENT IS RECOMMENDED FOR ALL CABLES THAT EXCEED 100 FEET IN LENGTH.

9. ALL TENDON STRESSING OPERATIONS SHALL BE PERFORMED UNDER THE IMMEDIATE CONTROL OF PERSON PROPERLY TRAINED AND EXPERIENCED IN POST-TENSIONING STRESSING OPERATIONS. ALL TENDONS SHALL BE STRESSED BY MEANS OF A HYDRAULIC JACK EQUIPPED WITH A RECENTLY CALIBRATED (WITHIN 60 DAYS) PRESSURE GAUGE. EACH JACK SHALL BE ACCOMPANIED BY A CURRENT, CERTIFIED CALIBRATION CHART. TENDON STRESSING OPERATOR SHALL MAINTAIN RIGID CONTROL OF GAUGE PRESSURE READINGS AND ELONGATION MEASUREMENTS. MEASURED ELONGATION SHALL CORRESPOND TO THE CALCULATED ELONGATION BY PLUS OR MINUS 10 PERCENT. ANY DISCREPANCIES IN TENDON ELONGATION OR STRESSING OPERATIONS SHALL BE REPORTED TO THE ENGINEER BEFORE CUTTING THE STRESSING ENDS. ON TENDONS 25 FEET IN LENGTH OR LESS, GAUGE PRESSURE GOVERNS OVER ELONGATION. DO NOT STAND BEHIND THE JACK DURING STRESSING.

10. PRESTRESSING STEEL SHALL CONFORM WITH ASTM A416, GRADE 270, SEVEN-WIRE LOW RELAXATION STRAND WITH A GUARANTEED ULTIMATE TENSILE STRENGTH OF 41.3 KIPS. ALL MATERIAL SHALL BE CLEAN AND FREE FROM RUST. NOMINAL DIAMETER SHALL BE 1/2 INCH. NOMINAL AREA SHALL BE 0.153 SQ. INCHES. MAXIMUM TEMPORARY JACKING FORCE SHALL NOT EXCEED 33 KIPS.

11. ALL REINFORCING SHALL BE BENT COLD. BARS SHALL NOT BE UN-BENT AND RE-BENT. FIELD BENDING OF REBAR SHALL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED.

POST TENSION FOR SLABS AND FOUNDATION ON GRADE (CONT):

12. ANCHORAGE POST-TENSIONING TENDONS SHALL BE MONOSTRAND-TYPE ANCHOR SYSTEM WITH CURRENT ICC APPROVAL USING A DUCTILE IRON CASTING OF AT LEAST 2.25 INCHES BY 4.5 INCHES OF BEARING. POCKET-FORMERS SHALL BE USED ON ALL STRESSING ENDS. THE POCKET-FORMER SHALL PROVIDE ADEQUATE CONCRETE COVERAGE FOR THE ANCHOR AS NOTED ON THE PLANS OR DETAILS. COATING POCKET-FORMERS WITH OIL OR SIMILAR MATERIALS FOR EASE OF REMOVAL IS ACCEPTABLE. ALL DEAD END ANCHORAGES SHALL BE SHOP FABRICATED, PRESEALED WEDGES. FABRICATION AND MANUFACTURE OF THE UNBONDED SYSTEM SHALL BE IN ACCORDANCE WITH THE GUIDE SPECIFICATIONS AS OUTLINED BY THE POST-TENSIONING INSTITUTE.

13. TENDONS EXCEEDING 100 FT. IN LENGTH SHALL BE STRESSED FROM BOTH ENDS.

POST-TENSIONING REINFORCING SHALL CONFORM TO THE FOLLOWING:

POST-TENSIONING TENDON MATERIAL -----	STRESS RELIEVED -----	LOW RELAXATION
ASTM DESIGNATION -----	A416 -----	A416
ULTIMATE STRENGTH -----	270 KSI -----	270 KSI
TEMPORARY STRESS TO OVERCOME FRICTION -----	216 KSI -----	216 KSI
ANCHOR STRESS -----	189 KSI -----	189 KSI
EFFECTIVE STRESS -----	159 KSI -----	174 KSI
ELONGATION -----	.0825 IN/FT -----	.0825 IN/FT.
CONCRETE COVER -----	3/4" TO STRAND -----	3/4" TO STRAND
CONCRETE COVER -----	2 1/4" TO WEDGES -----	2 1/4" TO WEDGES

POST-TENSIONING DESIGN WAS PERFORMED USING LOW RELAXATION STRAND. SUPPLIER MAY SUBSTITUTE WITH STRESS RELIEVED STRAND PROVIDED THEY PERFORM AND SUBMIT THE NECESSARY CALCULATIONS.

SUPPLIER SHALL SUBMIT CALCULATIONS FOR ALL LOSSES FOR SPECIFIED STRESSING LENGTHS

TO ENSURE MINIMUM FINAL EFFECTIVE FORCE IS MAINTAINED.

THE SUPPLIER SHALL BASE ALL ELONGATION CALCULATIONS UPON THE MODULES OF ELASTICITY SHOWN ON THE MILL CERTIFICATES FOR THE TENDONS BEING FURNISHED TO THE SITE. ALL TENDONS SHALL HAVE THEIR HEAT NUMBER MARKED ON THE TAG ATTACHED TO THE TENDON.

ONE (1) SAMPLE OF EACH REEL SHALL BE TESTED BY AN APPROVED LABORATORY. TEST RESULTS SHALL BE SUBMITTED TO THE ARCHITECT, STRUCTURAL ENGINEER AND BUILDING DEPARTMENT BEFORE STRESSING.

SUPPLIER SHALL SUBMIT SHOP DRAWINGS AS PER SPECIFICATION.

ANCHORAGE HARDWARE SHALL BE IN ACCORDANCE WITH I.C.B.O. REPORT 4597, TYPE U-5, AS SUPPLIED BY PRECISION POST TENSION OR OTHER MANUFACTURE WITH CURRENT AND EQUIVALENT I.C.B.O. APPROVAL. ANCHORAGES EXPOSED TO WEATHER, OR UTILIZED IN EXTERIOR APPLICATIONS, SHALL USE AN ENCAPSULATED SYSTEM.

DRAPES SHALL CONFORM TO CONTROLLING POINTS SHOWN ON DRAWINGS AND SHOULD BE IN AN APPROXIMATELY PARABOLIC DRAPE BETWEEN SUPPORTS. DIMENSIONS LOCATE THE CENTER OF GRAVITY OF THE TENDON OR GROUP OF TENDONS. LOW POINTS ARE AT MIDSPAN, UNLESS NOTED OTHERWISE.

TENDONS SHALL BE SECURED TO A SUFFICIENT NUMBER OF POSITIONING DEVICES TO ENSURE CORRECT LOCATION DURING PLACEMENT OF CONCRETE, AND SHALL BE SPACED AT NOT MORE THAN 4'-0" O.C. ALL CHAIRS TO BE STAPLED UNLESS NOTED OTHERWISE BY ARCHITECT.

ALL #4 SUPPORT BARS SHALL BE LAPPED 1'-6".

PLACE 2 #4 CONTINUOUS BARS EDGE OF SLAB ANCHORS.

ALL POCKETS REQUIRED FOR ANCHORAGE SHALL BE REINFORCED SO AS NOT TO DECREASE THE STRENGTH OF THE STRUCTURE. ALL POCKETS SHALL BE WATERPROOF SO AS TO ELIMINATE WATER LEAKAGE THRU THE POCKET. ALL DAMAGE TO MASTIC SHEATHING AROUND TENDONS SHALL BE REPAIRED.

TWISTING OR ENTWINING OF INDIVIDUAL WIRES OR STRANDS WITHIN A BUNDLE OR A BEAM SHALL NOT BE PERMITTED.

GROUT OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED IN THE VICINITY OF THE TENDONS OR ANCHORS.

CONTINUOUS INSPECTION IS REQUIRED FOR ALL PRESTRESS WORK.

RECORDS OF ALL JACKING FORCES AND ELONGATIONS SHALL BE KEPT BY A CERTIFIED PRESTRESS INSPECTOR AND SHALL BE PROMPTLY SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER.

WHILE STRESSING, FIELD TESTS SHALL BE MADE WITH JACKS OR OTHER INSTRUMENTS ON TENDONS TO DETERMINE BEHAVIOR OF THE TENDONS. FIELD READINGS OF ELONGATIONS AND/OR STRESSING FORCES SHALL NOT VARY MORE THAN 5% FROM CALCULATED REQUIRED VALUES.

ALL INSERTS AND SLEEVES SHALL BE CAST-IN-PLACE WHENEVER FEASIBLE. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN IT CAN BE SHOWN THAT THE INSERTS WILL NOT SPALL THE CONCRETE AND LOCATED SO AS TO AVOID THE TENDONS AND ANCHORAGES.

SLAB OR BEAMS MAY BE DE-SHORED WHEN ALL TENDONS HAVE BEEN STRESSED EXCEPT WHEN SHORING IS REQUIRED TO CARRY FLOORS ABOVE OR WHERE NOTED ON PLANS THAT CONTINUOUS SHEARING IS REQUIRED. CONTINUOUS SHORING SHALL BE PROVIDED IN BAYS WITH CLOSURE STRIPS. RESHORING SHALL BE SPACED AT 7'-0" O.C. MAXIMUM AND SHALL EXTEND TO FOUNDATION SLAB UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER. LEAVE ALL CLOSURE STRIPS OPEN FOR 28 DAYS MINIMUM AFTER LAST SLAB ADJACENT TO CLOSURE HAS BEEN POURED AND STRESSED.

THE CONTRACTOR RESPONSIBLE FOR THE PLACEMENT OF ALL POST-TENSIONING SHALL HAVE A MINIMUM EXPERIENCE LEVEL OF 3 YEARS OR 5 PROJECTS FOR THIS TYPE OF CONSTRUCTION.

CALCULATIONS REQUIRED BY THIS SECTION SHALL BE SEALED BY A REGISTERED ENGINEER AND SUBMITTED TO THE PROJECT STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PROCEEDING WITH THE WORK.

CONSTRUCTION JOINTS:

ALL CONSTRUCTION JOINTS IN WALLS SHALL BE KEYED IN ACCORDANCE WITH THE TYPICAL CONSTRUCTION JOINT DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR, AT THE CONTRACTOR'S OPTION, SHALL BE INTENTIONALLY ROUGHENED IN ACCORDANCE WITH THE FOLLOWING: THE SURFACE OF ROUGHENED JOINTS SHALL BE SAND BLASTED OR ROUGHENED WITH A CHIPPING HAMMER TO EXPOSE THE AGGREGATE EMBEDDED IN THE PREVIOUS POUR. THE EXPOSED AGGREGATE SHALL PROTRUDE A MINIMUM OF 1/4 INCH. ALL SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED. VERTICAL CONSTRUCTION JOINTS IN WALLS SHALL BE HELD TO A MAXIMUM SPACING OF 30'-0". ALL CONSTRUCTION JOINTS IN SLABS, JOISTS, BEAMS, AND GIRDS SHALL BE OFFSET A DISTANCE EQUAL TO TWICE THE WIDTH OF THE BEAM.

ELECTRICAL CONDUIT IN CONCRETE SLABS:

ELECTRICAL CONDUIT SHALL BE RIGID STEEL CONDUIT OR FLEXIBLE PLASTIC CONDUIT. ALUMINUM CONDUIT IS PROHIBITED. CONDUIT WITH A MAXIMUM OUTSIDE DIAMETER OF 1/6 TIMES THE SLAB THICKNESS MAY BE EMBEDDED IN ONE LAYER AT THE MID-DEPTH OF SLABS. MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 3 TIMES CONDUIT DIAMETER. CONDUIT SHALL BE FIRMLY CHAIRED AND TIED TO PREVENT DISPLACEMENT DURING POURING. PLACE #3 AT 12 INCHES ADDITIONAL REINFORCING ABOVE AND BELOW, PERPENDICULAR TO THE CONDUIT. THE ADDED REINFORCING SHALL EXTEND 1'-0" PAST THE CONDUIT ON BOTH SIDES. FOR CONDUIT PLACED IN SLABS ON METAL DECKING, CONDUIT SHALL RUN IN THE METAL DECK FLUTES PER THE TYPICAL CONDUIT IN SLAB ON METAL DECK DETAIL.

CONCRETE INSERTS:

THIN SLAB TYPE INSERTS SHALL BE GALVANIZED AND HAVE THE FOLLOWING MINIMUM WORKING LOADS(A 4:1 RATIO OF ULTIMATE TO WORKING VALUES IS ASSUMED):

BOLT DIAMETER	WORKING LOAD	
	SHEAR	TENSION
1/2"	1,000 LBS.	650 LBS.
5/8"	1,250 LBS.	700 LBS.
3/4"	1,600 LBS.	850 LBS.

CONCRETE INSERTS:

COIL LOOP INSERTS SHALL BE GALVANIZED AND HAVE THE FOLLOWING MINIMUM WORKING LOADS(A 3:1 RATIO OF ULTIMATE TO WORKING VALUES IS ASSUMED):

BOLT DIAMETER	WORKING LOAD	
	SHEAR	TENSION
1/2"	2,200 LBS.	2,820 LBS.
5/8"	3,000 LBS.	3,620 LBS.
3/4"	3,100 LBS.	3,660 LBS.

THREADED COIL RODS, COIL NUTS, ETC., USED IN CONJUNCTION WITH CONCRETE INSERTS, SHALL HAVE A WORKING LOAD EQUAL TO OR GREATER THAN THE CORRESPONDING CONCRETE INSERT. CONTRACTOR SHALL SUBMIT MANUFACTURER'S SIZE AND STRENGTH DATA PRIOR TO CONSTRUCTION TO THE STRUCTURAL ENGINEER THRU THE ARCHITECT. VALUES LISTED ABOVE ARE FOR RICHMOND STRUCTURAL CONNECTION INSERTS.

STRUCTURAL FILL:

ALL FILL PLACED TO SUPPORT SLABS ON GRADE, BEHIND PERMANENT WALLS, AND AROUND ALL DRAINS SHALL CONSIST OF WELL GRADED, GRANULAR MATERIAL PER THE SPECIFICATIONS. SOILS FOR STRUCTURAL FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. STRUCTURAL FILL SHALL BE PLACED ON SOUND NATIVE MATERIAL. PROF-ROLL OUT AREAS WHICH PROVIDE SUPPORT FOR PERMANENT STRUCTURES. AREAS WHICH ARE EXCESSIVELY YIELDING, AS DETERMINED BY THE CONTINUOUS OBSERVATION OF THE GEOTECHNICAL ENGINEER, SHALL BE OVEREXCAVATED AND REPLACED WITH STRUCTURAL FILL. STRUCTURAL FILL SHALL BE PLACED PER THE SPECIFICATION. USE LEAN CONCRETE FILL BELOW ALL PIPES EXISTING OUT OF BASEMENT WALL, FULL HEIGHT OF WALL. CONCRETE SHALL CONTAIN 2 SACKS OF CEMENT PER YARD.

NOTES ON CRACKING OF CONCRETE STRUCTURES:

CRACKING IS INHERENT TO THE MATERIAL PROPERTIES OF CONCRETE CONSTRUCTION (INCLUDING POST-TENSIONED CONCRETE STRUCTURES). WHILE EVERY EFFORT HAS BEEN MADE TO MINIMIZE THE EFFECTS OF UNSIGHTLY CRACKING, THE PRESENCE OF CRACKS ARE NORMAL AND UNAVOIDABLE. THE DESIGN OF THE CONCRETE STRUCTURAL ITEMS HAVE BEEN ANALYZED USING A "CRACKING SECTION." THE PRESENCE OF THE CRACKING SHOULD NOT BE CONSIDERED DETRIMENTAL TO THE STRUCTURE. CRACKS LARGER THAN 10 MILS SHALL BE FILLED AND SEALED WITH AN APPROVED CRACK FILLER TO PREVENT FUTURE DETEIORATION. ALLOWANCE SHALL BE MADE IN THE CONSTRUCTION BUDGET FOR SEALING OF SUCH CRACKS. IN SOME CASE, CRACKS DO NOT APPEAR UNTIL WELL AFTER CONSTRUCTION HAS BEEN COMPLETED. IT IS THE RESPONSIBILITY OF THE OWNER TO MAINTAIN THE STRUCTURE PROPERLY OVER THE LIFE OF THE STRUCTURE. CONCRETE CRACKS, SHOULD THEY OCCUR, SHALL BE FILLED AND SEALED TO PREVENT PREMATURE DETEIORATION OF THE STRUCTURE.

SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS.

THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON HIS REVIEW.

VERIFY ALL DIMENSIONS WITH ARCHITECT AND ALL FINISHED GRADE WITH CIVIL DRAWINGS.

ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE CLOUDED BY MANUFACTURER OR FABRICATOR. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY.

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANYTIME BEFORE OR AFTER SHOP DRAWING REVIEW.

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT ARE NOT TO BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS.

THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY.

REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

GENERAL:

ENTIRE CONTRACT DOCUMENTS SHALL BE USED TO BUILD BUILDING. SOME CRITICAL ITEMS REQUIRED BY OTHER DISCIPLINES MAY NOT BE SHOWN ON STRUCTURAL DRAWING (i.e. WALL, FLOOR AND ROOF OPENING, ARCHITECTURAL, MECHANICAL AND PLUMBING LOADS, SUPPORT PLATES ETC.)

ITEMS SHOWN BY OTHER DISCIPLINES WITH REFERENCE TO STRUCTURAL DRAWING BUT NOT SHOWN ON THESE STRUCTURAL DOCUMENT SHALL BE CONSIDERED DESIGN BUILD ITEMS. CONTRACTOR SHALL SUBMIT DESIGN BY OTHERS FOR REVIEW.

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, AND SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.

ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF HE CHOOSES AN OPTION, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES AND SHALL COORDINATE ALL DETAILS.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

ALL DIMENSIONS SHOWN (INCLUDING ELEVATIONS) ON STRUCTURAL DRAWINGS ARE TO ASSIST CONTRACTOR IN VERIFICATION. SCALING DIMENSIONS FROM DRAWINGS IS NOT PERMITTED. LOCATION OF ALL ITEMS SHALL BE DETERMINED BY DIMENSIONS OR NOTES ONLY; DO NOT USE GRAPHIC APPEARANCE TO ASSUME SPECIFIC LOCATIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL AND FINISHED GRADE WITH CIVIL DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE.

WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF JURISDICTION.

SUPPLIER OF ENGINEERED STRUCTURAL COMPONENTS (I.E. STEEL JOISTS, STAIRS, PRECAST ITEMS) SHALL BE RESPONSIBLE FOR COMPLETE DESIGN AND SHALL USE ENTIRE CONTRACT DOCUMENTS TO INCLUDE ALL LOADS AND DETAIL REQUIREMENTS FROM ALL DISCIPLINES. SUPPLIER SHALL PROVIDE ADDITIONAL MATERIAL REQUIRED TO MEET ALL THEIR REQUIREMENTS FOR INSTALLATION (I.E. WIDER BEARING PLATES, SHIMS, ERECTION BOLTS ETC.).



LAKE HAVASU CITY

NO.	#	#	#	#	#	#	#	#	#
REVISIONS / SUBMISSIONS									
DATE									

**DICK SAMP MEMORIAL PARK
PICKLEBALL COURTS - BID SET
PK1000**

Designed by: Ru	Drawn by: PKA	Checked by: AH	Date: 09/02/2016	Dwg scale: AS SHOWN
-----------------	---------------	----------------	------------------	---------------------

**GENERAL
STRUCTURAL
NOTES**

NORRIS DESIGN
Planning | Landscape Architecture | Project Production

6 East Aspen Avenue
Suite 200
Flagstaff, AZ 86001
P 928-233-3021
www.norris-design.com

Sheet Number: **S1.1**

STRUCTURAL STEEL SUPPLIER SHALL FURNISH BOLTS FOR OSHA CONNECTIONS (SEE DRAWINGS FOR DETAILS).

WALL SHORING SHALL BE INSTALLED PRIOR TO BACKFILLING BEHIND ALL BUILDING RETAINING WALLS, UNLESS ALL RESTRAINING SLABS ARE INSTALLED. USE HANDTAPPING ONLY WHEN WITHIN 8'-0", OR WITHIN HALF THE WALL HEIGHT OF BACKFILLED WALL.

CONTINUOUS FOUNDATION DRAIN PIPES (FRENCH DRAINS) OR WEEP HOLES SHALL BE PROVIDED BEHIND ALL BASEMENT WALLS AND ALL EXTERIOR RETAINING WALLS THAT RETAIN MORE THAN 3'-0" OF SOIL WEEP HOLES WHERE USED SHALL BE 2" IN DIAMETER AT 6'-0" O.C. MAXIMUM.

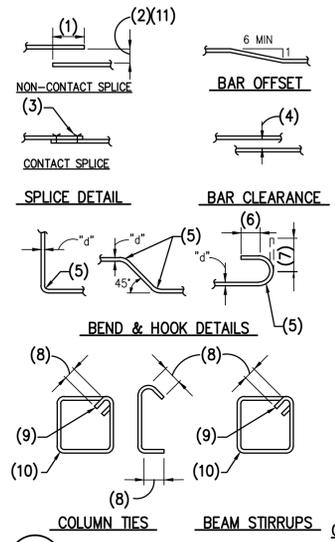
BUILDING TOLERANCES:

STANDARD TOLERANCES SHALL BE BASED ON THE REQUIREMENTS OF THE AISC CODE OF STANDARD PRACTICE AND ACI 117, STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS.

MISCELLANEOUS:

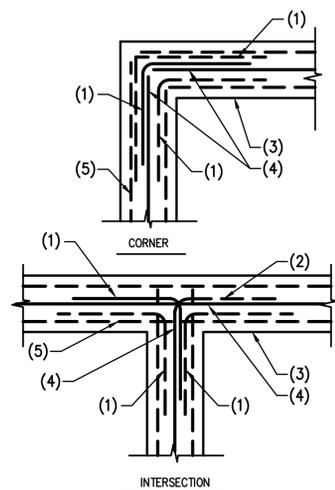
REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, ELEVATOR, OR OTHER SPECIALTY ENGINEERING DRAWINGS FOR DIMENSIONS NOT SHOWN, INCLUDING BUT NOT LIMITED TO: SIZE AND LOCATION OF CURBS, EQUIPMENT HOUSEKEEPING PADS, WALL AND FLOOR OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, SUMPS, DRAINS, ANCHOR BOLTS, EMBEDDED ITEMS, ARCHITECTURAL TREATMENT, ETC. CONTRACTOR SHALL VERIFY DIMENSIONS AND RESOLVE DISCREPANCIES OR CONFLICTS PRIOR TO CONSTRUCTION. WHERE SECTIONS ARE INDICATED ON THE PLAN BY A NUMBER AND A DRAWING NUMBER THUS, 1/5S.01, THE INDICATED SECTION (1) IS SHOWN ON STRUCTURAL DRAWING 5S.01.

FLOOR FLATNESS/LEVELNESS SHALL MEET ARCHITECTURAL SPECIFICATIONS (1/4" IN 10 FOOT MINIMUM LEVELNESS UNLESS TIGHTER REQUIREMENT IN SPECIFICATIONS) IN HEIGHT FOR ALL STRUCTURAL SYSTEMS. CONTRACTOR SHALL INCLUDE COST FOR LEVELING ALL FLOORS. FOR ESTIMATING PURPOSES ONLY, ASSUME 1/2" THICK LEVELING AGENT OVER 15% OF FLOOR AREA.



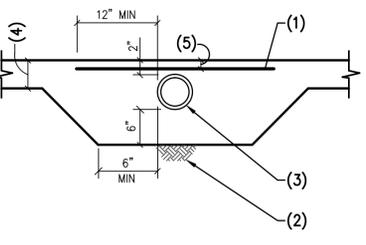
03 TYPICAL CONCRETE REINFORCING BAR DETAILS NO SCALE

- NOTES:**
- LAP - SEE G.S.N.
 - MAXIMUM 1/5 LAP LENGTH BUT NOT MORE THAN 6".
 - WIRE TIES
 - 1d (1" MINIMUM).
 - RADIUS=3d FOR BARS NOT OVER #8; 4d FOR #9, #10 AND #11 BARS; 5d FOR #14 AND #18 BARS.
 - 4d (2 1/2" MINIMUM).
 - 12d (90 DEGREE HOOK).
 - 6d (3" MINIMUM).
 - 135 DEGREE BEND.
 - BEND AROUND 1 1/2" ϕ PIN FOR #3 BARS. BEND AROUND 2" ϕ PIN FOR #4 BARS. BEND AROUND 2 1/2" ϕ PIN FOR #5 BARS.
 - PRIOR APPROVAL MUST BE GIVEN BY OUR OFFICE TO ALLOW NON-CONTACT SPLICES.
 - LAP TIE MIN. 6"
 - LONGITUDINAL REINFORCEMENT.
 - LONGITUDINAL BAR AS OCCURS.
 - PROVIDE 135° HOOK AT LONGITUDINAL REINFORCEMENT.
 - ROTATE AND ALTERNATE TIE LAP AT DIFFERENT VERTICAL REBAR LOCATION AT EACH TIE.



04 PLAN - CORNER REINFORCING IN CONCRETE WALL, GRADE BEAM AND/OR FOOTING NO SCALE

- NOTES:**
- CORNER BARS SAME SIZE AND SPACING AS HORIZONTAL REINFORCING. LAP PER G.S.N. (24" MINIMUM).
 - ALTERNATE BEND.
 - CONCRETE STEM WALL OR FOOTING.
 - REINFORCING PER PLANS AND/OR G.S.N.
 - BARS EACH FACE WHERE OCCURS.



05 SLEEVE FOR PIPE AT SLAB NO SCALE

- NOTES:**
- 4x4 - W1.4 x W1.4 W.W.F. OR #4 AT 12" O.C.
 - FIRM UNDISTURBED SOIL OR COMPACTED BASE.
 - PIPE OR CONDUIT.
 - TYPICAL SLAB THICKNESS. AT POST-TENSIONED SLABS, PIPE MUST OCCUR BELOW TENDON WITHOUT DEVIATING TENDON.

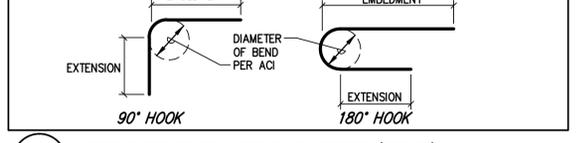
CONC. PSI	CLASS B TENSION SPLICE LENGTHS						COMP. BARS	
	REGULAR CLASS	TOP CLASS	REGULAR CLASS	TOP CLASS	REGULAR CLASS	TOP CLASS	STD LAP	ENCLOSED W/ SPIRAL TIES
#3	24"	31"	19"	24"	17"	22"	12"	12"
#4	32"	41"	25"	33"	23"	29"	15"	12"
#5	39"	51"	31"	41"	28"	36"	19"	14"
#6	47"	61"	37"	49"	34"	43"	23"	17"
#7	69"	89"	54"	71"	49"	63"	26"	20"
#8	78"	102"	62"	81"	56"	72"	30"	23"
#9	88"	115"	70"	91"	63"	81"	34"	25"
#10	100"	129"	79"	102"	70"	92"	38"	29"
#11	110"	143"	87"	113"	78"	102"	42"	32"

- NOTES:**
- TOP BARS ARE ANY HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
 - UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, SLABS AND WALLS SHALL BE CLASS "B" TENSION SPLICES. CONCRETE COLUMNS SHALL USE COMPRESSION LAP SPLICES.
 - CONTACT STRUCTURAL ENGINEER IF CENTER-TO-CENTER SPACING OF REINFORCING IS LESS THAN OR EQUAL TO 3 BAR DIAMETERS <3db OR 2db CLEAR SPACING BETWEEN BARS.
 - WHERE CLEAR COVER <db, MULTIPLY TENSION LAP SPLICE BY 1.5.
 - ALL SPLICES MUST BE FULL CONTACT.
 - WHERE EPOXY COATED BARS USE, MULTIPLY LAP SPLICE BY 1.5.

01 LAP SCHEDULE FOR REINFORCING STEEL NO SCALE

BAR SIZE	HOOKED EMBEDMENT			EXTENSION		STRAIGHT BAR EMBEDMENT		
	3000 PSI CONCRETE	4000 PSI CONCRETE	5000 PSI CONCRETE	90° HOOK	180° HOOK	5000 PSI	4000 PSI	3000 PSI
#3	6	6	6	4.5	2.5	13	14	16
#4	8	7	6	6.0	2.5	17	19	22
#5	10	8	7	7.5	2.5	21	24	27
#6	12	10	9	9.0	3.0	26	28	33
#7	13	12	10	10.5	3.5	37	42	48
#8	15	13	12	12.0	4.0	43	47	55
#9	17	15	13	13.5	4.5	48	54	62
#10	19	17	15	15.2	5.1	54	60	70
#11	22	19	17	16.9	5.6	60	67	77

- NOTES:**
- EMBEDMENT LENGTH IS BASED ON 2 1/2" MINIMUM SIDE COVER AND 2" MINIMUM END COVER.
 - CONTACT STRUCTURAL ENGINEER IF CENTER TO CENTER SPACING OF REINFORCING IS LESS THAN OR EQUAL TO 3 BAR DIAMETERS <3db OR 2db CLEAR SPACING BETWEEN BARS.
 - WHERE CLEAR COVER <db, MULTIPLY EMBEDMENT AND STRAIGHT BAR DEVELOPMENT BY 1.5.
 - WHERE EPOXY-COATED BARS USE, MULTIPLY EMBEDMENT AND STRAIGHT BAR DEVELOPMENT BY 1.5.



02 DOWEL DEVELOPMENT LENGTH IN TENSION (INCHES) NO SCALE



PK ASSOCIATES, LLC
 15323 Clifford R. Faulk
 1925 N. 1st Ave., Suite 200
 Phoenix, AZ 85001
 Phone: (480) 922-8854
 Fax: (480) 922-3739
 Email: cfaulk@pkstructural.com
 Website: www.pkstructural.com

LAKE HAVASU CITY

NO.	REVISIONS / SUBMISSIONS	DATE

DICK SAMP MEMORIAL PARK PICKLEBALL COURTS - BID SET PK1000

Designed by: RU
 Drawn by: PKA
 Checked by: AH
 Date: 09/02/2016
 Dwg scale: AS SHOWN

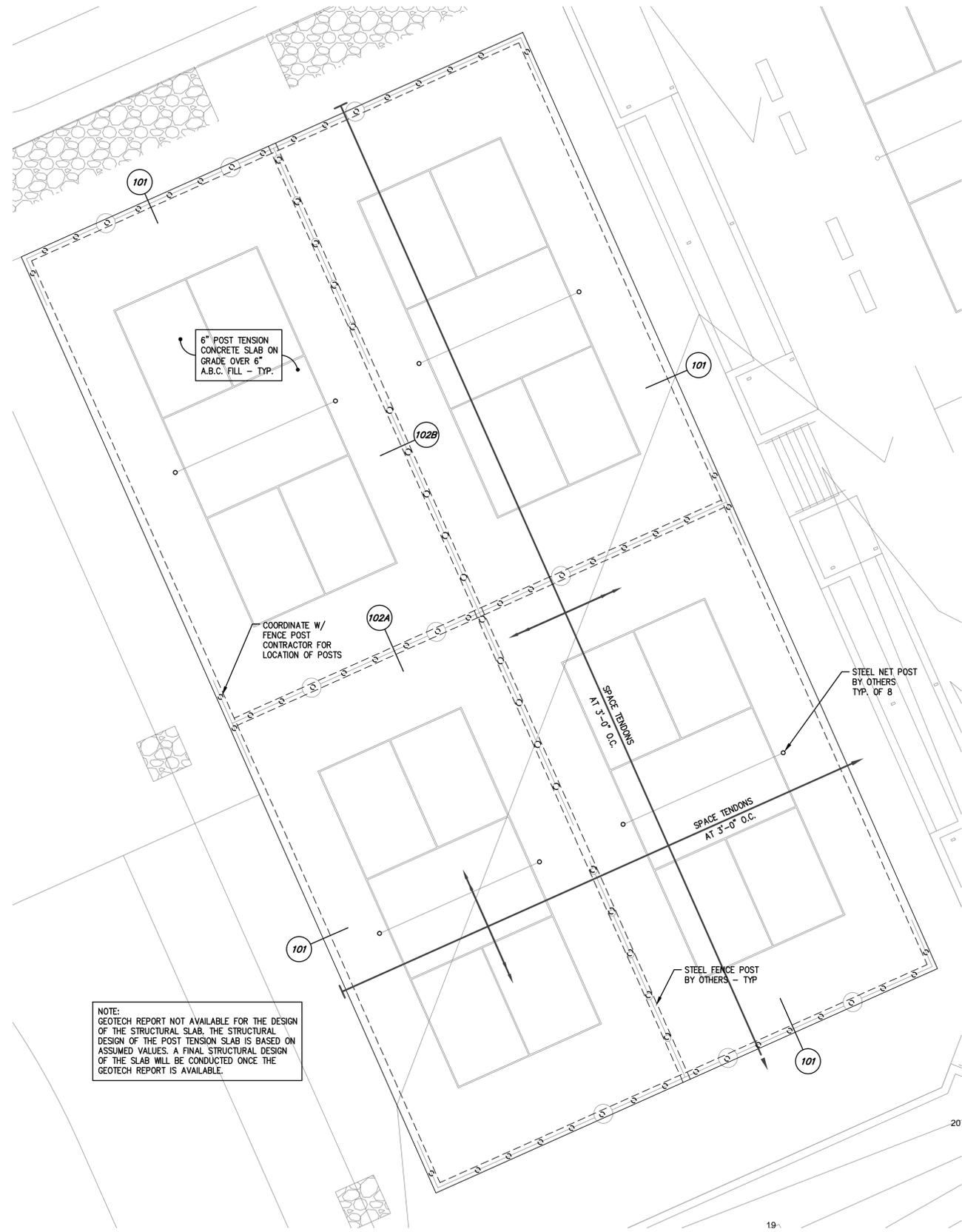
TYPICAL DETAILS

SWI
 Shepherd & Wenzel, Inc.

NORRIS DESIGN
 Planning | Landscape Architecture | Project Possibilities

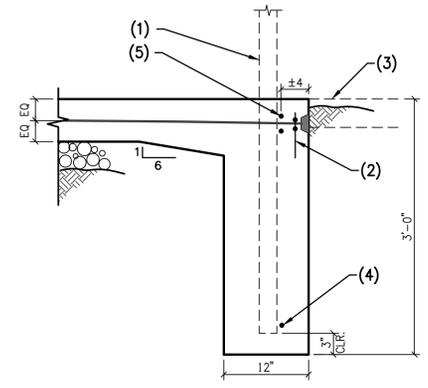
6 East Aspen Avenue
 Suite 200
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com

Sheet Number: **S1.2**
 Sheet



NOTE:
 GEOTECH REPORT NOT AVAILABLE FOR THE DESIGN OF THE STRUCTURAL SLAB. THE STRUCTURAL DESIGN OF THE POST TENSION SLAB IS BASED ON ASSUMED VALUES. A FINAL STRUCTURAL DESIGN OF THE SLAB WILL BE CONDUCTED ONCE THE GEOTECH REPORT IS AVAILABLE.

FOUNDATION PLAN
 SCALE: 1/8" = 1'-0"

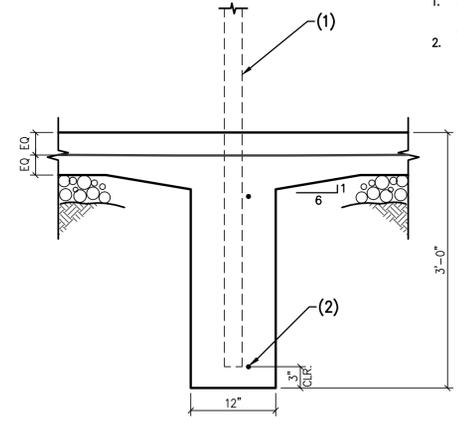


101 TYPICAL EDGE OF POST - TENSION SLAB
 NO SCALE

- NOTES:
- CHAIN LINK FENCE POSTS - REFER TO LANDSCAPE PLANS AND TECHNICAL SPECIFICATIONS.
 - 2 #4 CONT. "PINCH" BARS OR #4 x 2'-0"
 - HAIRPIN AT EACH TENDON. FINISHED GRADE OR CONCRETE SLAB ON GRADE.
 - 1 #5 CONT. TOP AND BOTTOM.
 - FIRST TENDON IN OPPOSITE DIRECTION.

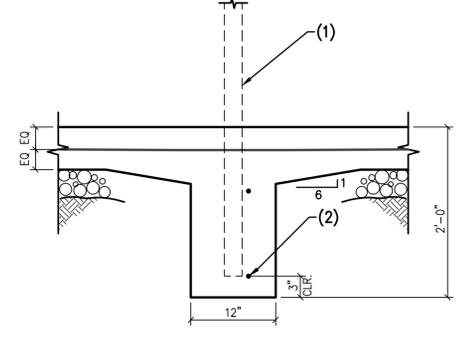


PK ASSOCIATES, LLC
 1901 W. McDowell Ave. Suite 200
 Phoenix, AZ 85024
 Phone: (480) 922-8854
 Fax: (480) 922-3739
 Email: ccode@pkstructural.com
 Website: www.pkstructural.com



A 8'-0" TALL FENCE

- NOTES:
- CHAIN LINK FENCE POSTS - REFER TO LANDSCAPE PLANS AND TECHNICAL SPECIFICATIONS.
 - 1 #5 CONT., TOP AND BOTTOM.



B 4'-0" TALL FENCE

102 TYPICAL POST - TENSION SLAB AT INTERIOR FENCE
 NO SCALE

NO.	REVISIONS / SUBMISSIONS	DATE
#	-	-
#	-	-
#	-	-
#	-	-

**DICK SAMP MEMORIAL PARK
 PICKLEBALL COURTS - BID SET
 PK1000**

Designed by: RU
 Drawn by: PKA
 Checked by: AH
 Date: 09/02/2016
 Dwg scale: AS SHOWN

**FOUNDATION PLAN
 AND DETAILS**

SWI
 Shepherd & Wenzel, Inc.

NORRIS DESIGN
 Planning | Landscape Architecture | Project Preparation

6 East Aspen Avenue
 Suite 200
 Flagstaff, AZ 86001
 P 928.233.3021
 www.norris-design.com

Sheet Number:

Sheet **S2.1**

