

**MINUTES OF THE OCTOBER 12, 2021  
BOARD OF DIRECTRS MEETING OF  
NORTH PLAINS GROUNDWATER DISTRICT**

The Board of Directors of North Plains Groundwater Conservation District met in regular session on October 12, 2021, at 9:00 a.m. in the Conference Room in the Richard S. Bowers Water Conservation Learning Center Building at the North Plains Water Conservation Center, 6045 West County Road E., Dumas, Texas 79029-7201. The following persons were present:

**Members Present at 9:04 a.m.:**

Bob B. Zimmer, President;  
Mark Howard, Vice-President;  
Zac Yoder, Secretary;  
Daniel L. Krienke, Director  
Harold Grall, Director, and,  
Justin Crownover, Director.

**Staff present during part or all of the meeting:**

Steve Walthour, General Manager;  
Kirk Welch, Assistant General Manager;  
Kristen Blackwell, Administration Manager; and,  
Curtis Schwertner, Natural Resource Specialist.

**Others present during part or all of the meeting:**

Nich Kenny;  
Mandi Boychuk, of Agri Vision;  
Stan Spain;  
F. Keith Good, General Counsel for the District; and,  
Ellen Orr, Paralegal.

President Zimmer declared a quorum present and called the meeting to order at 9:04 a.m. Director, Mark Howard, gave the invocation and President, Bob B. Zimmer, led the pledge.

**1. - Public Comment**

No Public Comment was made to the Board.

**2. - Consent Agenda**

The Consent Agenda was discussed by the Board and consisted of: (a) the review and approval of the Minutes of the regularly scheduled Board of Directors Meeting held on August 13, 2021; (b) the review and approval of the Minutes of the specially scheduled Board of Directors Meeting held on August 27, 2021; (c) the review and approval of un-audited District expenditures for August 31, 2021 through September 30, 2021, including the General Manager's expense and activity report; and, (d) the review and approval of payment to Lemon, Shearer, Phillips & Good, P.C. for professional services and out-of-pocket expenses incurred from August 1, 2021 through September 30, 2021, in the amount of \$12,935.38.

Daniel L. Krienke moved to approve the Consent Agenda. Harold Grall seconded the motion, and it was unanimously approved by the Board.

***Action Agenda 3.a. - Consider final compliance approval of water well permits as active and complete wells.***

The General Manager reported that District Rule 2.13 provides, after the site inspection is complete, and it is determined that the Well (and all Wells within the Groundwater Production Unit) is/are in compliance with the Rules of the District, and the Well Permit application, the General Manager shall submit the Well Permit to the Board for final compliance approval.

It was noted that 333 non-exempt Well Permits had been issued by the District since January 1, 2021, and that 198 non-exempt Well Permits had been approved by the Board since January 1, 2021.

The General Manager reported that the District staff had processed 30 Water Well Permits which are ready for Board consideration and approval. These permits, listed in the table below, represent completed wells that have been inspected and are in compliance with District Rules. The inspections verify that the wells were completed as required by the respective Permits, including proper well location, well classification, maximum yield, and proper installations of check valves and flow meters. Copies of the individual permits were presented to the Board.

Permit Number	Well Class	Quarter	Section	Block	Survey	N S	E W
DA-11505	C	SW/4	7	W H	NONE	165 N	225 W
DA-11554	C	NW/4	7	Z	OK Mapes	177 N	126 W
DA-11555	C	SE/4	23	1	CSS	216 S	591 E
DA-11570	B	NE/4	30	1	CSS	385 N	128 E
DA-11593	C	NE/4	14	2	B&B	369 N	102 E
DA-11704	C	NE/4	60	M E Hays	CRL	107 N	780 E
DA-11770	C	NE/4	126	4	CSS	515 N	803 E
HA-11478	C	NE/4	2	1	J Poitevent	668 N	448 E
HA-11492	D	NE/4	16	14	CSS	462 N	678 E
HA-11594	B	SW/4	69	2	B&B	465 S	444 W
HA-11595	B	SW/4	69	2	B&B	465 S	117 W
HA-11623	C	SE/4	15	11	CSS	846 S	638 E
HA-11624	C	NE/4	14	11	CSS	445 N	434 E
HA-11645	C	NW/4	105	4	CSS	461 N	411 W
HA-11748	C	NE	29	11	CSS	251 N	842 E
HA-11751	D	NE	WH			190 N	381 E
HA-11932	C	NW	30	13	CSS	21 N	339 W
HA-11933	C	SW	35	13	CSS	420 S	390 W
HA-11935	C	NE	51	13	CSS	533 N	678 E
HA-11936	C	NE	51	13	CSS	770 N	12 E
HA-12089	C	NE	3	12	CSS	305 N	738 E
HN-11167	B	SW/4	224	2	GH&H	176 S	287 W
HN-11631	C	SE/4	35	P	H&GN	371 S	183 E
HU-11685	C	NE/4	21	M-16	AB&M	29 N	605 E
LI-11692	D	SE/4	171	43	H&TC	721 S	545 E
MO-11476	C	NE/4	323	44	H&TC	273 N	225 E
MO-11758	C	SW/4	287	44	H&TC	153 S	112 W
OC-11942	C	SW	10	JT	TWNG	434 S	114 W
SH-11607	C	NE/4	94	1-C	GH&H	40 N	508 E
SH-12185	B	NE	139	1-C	GH&H	725 N	103 E

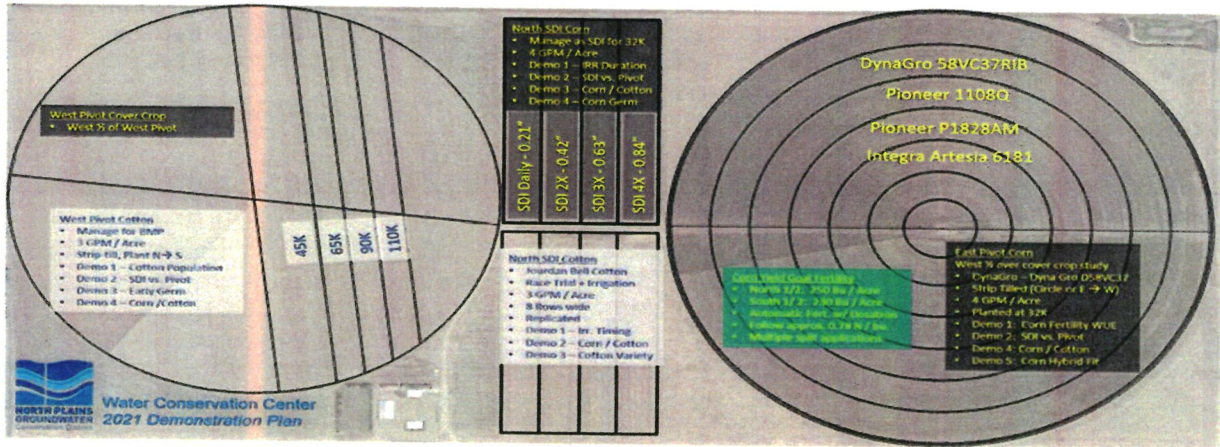
Harold Grall moved to approve all of the well permits on the well permit schedule, noting that the wells are properly equipped and otherwise comply with District Rules. Zac Yoder seconded the motion, and it was unanimously approved by the Board.

**Action Agenda 3.b.- Receive report and consider action as needed regarding agriculture water conservation demonstration programs and the North Plains Water Conservation Center.**

Nich Kenny presented the following report to the Board:

6 Oct 2021 – NPGCD Water Conservation Center  
Update Nicholas Kenny, P. E.

Figure 1: 2021 WCC Field plan for Corn and Cotton Rotation



## 2021 Irrigation Summary

### Cotton - 2021

	Plant Date	Rainfall	Pre-Water	In-season	Post Sept 1	Total Irr.	Last Irr.
West Pivot	12-May	12.1	1.9	5.9	2.3	10.1	23-Sep
South Drip: Zone 9-10	25-May	10.2	2.3	2.8	1.7	6.8	22-Sep
South Drip: Zone 11-12	25-May	10.2	2.4	2.8	1.7	6.8	22-Sep
South Drip: Zone 13-14	25-May	10.2	2.0	2.9	1.4	6.3	22-Sep
South Drip: Zone 15-16	25-May	10.2	1.9	2.8	1.4	6.1	22-Sep

### Corn - 2021

Corn - 2021	Plant	Rainfall	Irrigation: Acre-Inches			Last Irr.
			Pre-	In-	Total	
East Pivot	24-May	10.2	4.4	17.8	22.1	19-Sep
North Drip - Corn - Zones 1-2	24-May	10.2	2.4	17.3	19.7	16-Sep
North Drip - Corn - Zones 3-4	24-May	10.2	1.9	15.5	17.4	16-Sep
North Drip - Corn - Zones 5-6	24-May	10.2	1.9	19.5	21.3	16-Sep
North Drip - Corn - Zones 7-8	24-May	10.2	1.9	18.2	20.1	16-Sep

Irrigation observations that are being considered during analysis of the data this winter include:

- Over-Irrigation with 4 GPM / Acre** - There were multiple periods during July when the East pivot corn showed signs of saturation and over-irrigation, following a cotton crop that completely depleted the soil moisture. It is likely that management could have been more aggressive on withholding in-season irrigation water. Ceres imaging and soil moisture probes combined to indicate these events that otherwise would be difficult to identify.
- Lower soil moisture percentage in SDI** - Despite periods of withheld



irrigation, the North SDI corn spent the entire season in a high-moisture condition. Zones 3-4 had a slightly shorter relative run-time and applied less water than the other 6 Zones. During the season, this zone appeared more ideal according to multiple indicators. Consideration will be given to indicate whether an even lower irrigation threshold would be beneficial on SDI. The thought would be to irrigate at an 80% of plant available water level or manage it as if the capacity is 3 GPM / acre instead of 4 GPM / acre.

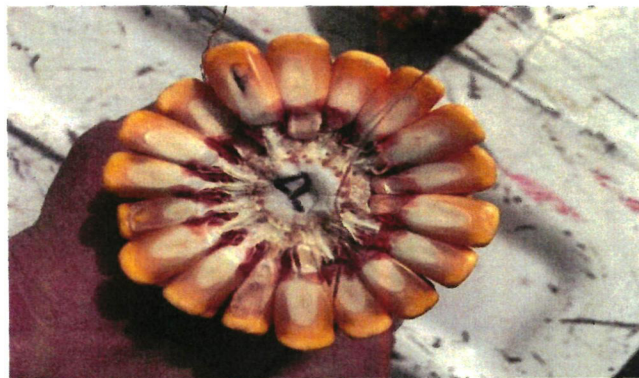
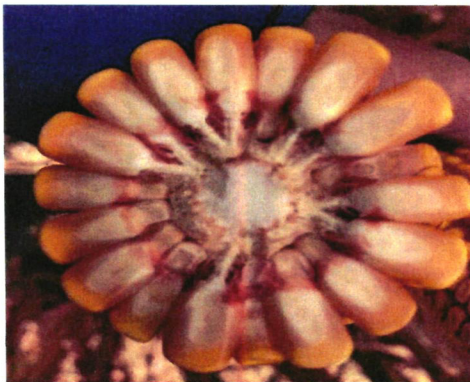
3. **Late Irrigation in Cotton** – The strategy in cotton was to terminate irrigation by September 1, with the understanding that ideal conditions could cause incremental irrigation events in September. Instead of having a full soil moisture profile at 1 Sept, the water levels were maintained at a lower level. As September and October remained warmer, the cotton was irrigated with multiple, smaller irrigation events through 23 September. Cotton run-away was never an issue and stature was maintained to the end of the season.

### **Predicted Harvest Schedule**

As of 6 October, the corn moisture content was 24% in the driest areas and 27% in wet areas. Corn harvest is expected to begin during the week of 11 October and is likely to extend into week of 18 October. Harvest coordination will be paramount to capture the multiple hybrids in the East Sprinkler and the irrigation treatments in the SDI blocks. The slower finish at this point is good for grain fill.

Cotton harvest dates are not known at the time of this document. The first defoliant product is expected to be applied on 9 October in advance of the upcoming temperature drop expected to occur on 12 October when overnight temperatures consistently drop into the 40's. 2021 has exhibited a solid finish for cotton and is essentially finished accumulating heat units.

*Figure 2: Corn ears from the North SDI block (left) and East Pivot (right) from 27 Sept. Pictures by Curtis Schwertner.*



### **New Irrigation Well at WCC**

Hydro Resources drilled four total test holes at the Water Conservation Center in August and October.

1. Test Hole #1, 20 Aug, (SW Corner of East Pivot) – Poor formation and expected low production;
2. Test Hole #2, 24 Aug, (Pivot Point of East Pivot) – Lost circulation;



3. Test Hole #3, 25 Aug, (SE Corner of north SDI) – Good formation, >400 GPM, non-ideal location; and,
4. Test Hole #4, 2 Oct, (NE Corner of West Pivot) – Good formation, 400 GPM, preferred location

The first three test holes were in pursuit of a Class-C well that would produce greater than 500 GPM. After observing the test holes in the radius restricted locations, a fourth test hole was ordered in a more preferred location, reducing the expectation to that of a 400 GPM well. The fourth test hole was drilled in the NE corner of the West Pivot, near the weather stations. The drilling logs indicate that the third and fourth test hole are very good candidates for production wells.

The Irrigation Engineer's recommendation is to pursue a 400 GPM well at the #4 location in the NE corner of the West Pivot. This location is the least cumbersome for farm operations. The tailings and log suggest that this location could support a well larger than the Class-B limitation.

The process to complete this well during the 2021 / 2022 winter is as follows:

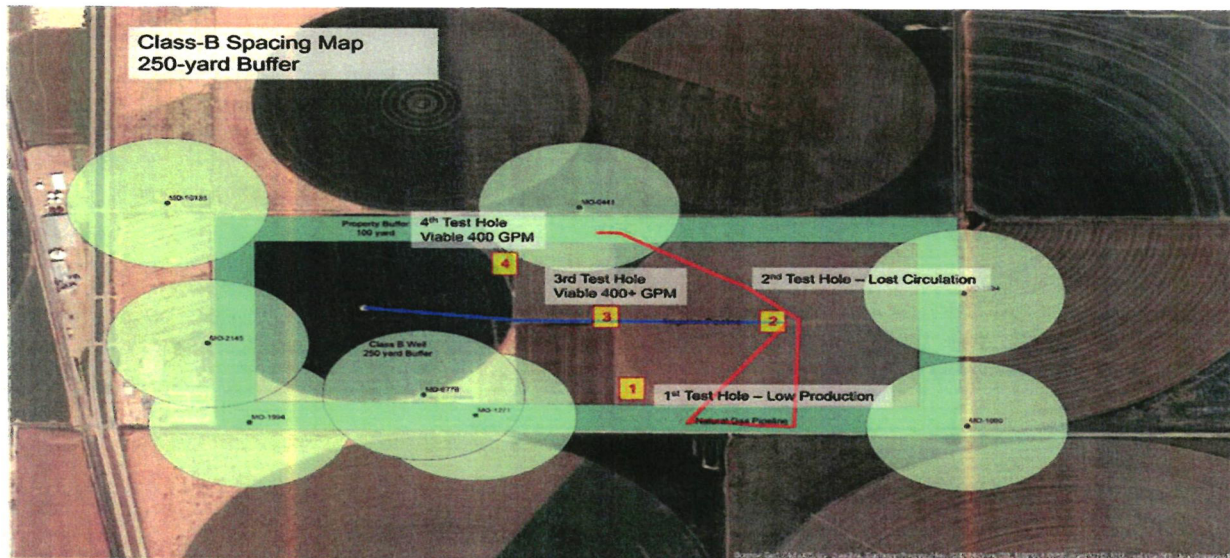
1. Obtain drilling permit
2. Design well with Dale Hallmark's input on the filter pack and sizing
3. Enter project agreement with Rita Blanca or Excel Energy
4. Drill and complete well to 680ft.
5. Develop and test-pump the well
6. Design pump (400 GPM @ 650ft. TDH, 100-hp Motor, VFD)
7. Install pumping plant, discharge, and electrical assembly
8. Trench and install 850 ft. 8" PVC pipeline to the tie into the mainline
9. Complete electrical installation

The summarized costs are below. A formal estimate is being prepared by Hydro Resources at the time of this report and numbers are expected to be ready at the time of the 12 Oct Board meeting.

*Figure 3: Table of estimated costs for a new Class-B well at the WCC. This figure will be updated by 11 October with ACTUAL figures provided by Hydro Resources (Hydro is in the estimating process at the time of this document). These figures are based on multiple industry prices and known similar project costs.*

1	Well Drilling and 16" HSLA Casing and louvers (460'-660'), gravel pack, well pad - 680' drilled depth.	\$ 150,000
2	Well Development and Test pumping (12 hours constant rate	
3	Equipping - Pump (400 GPM 650' TDH), 100 hp Motor, 6" Column, 2-1/2" x 1-1/2" IC and Shaft, 6" discharge head, oiler, installed	\$ 20,000
4	6" Discharge: Check valve, control valve, 6" flowmeter, vents, pressure ports, spigot.	\$ 58,000
5	Electrical Assembly: Service entrance, meter section, disconnect, VFD, motor leads, rack, etc.	\$ 6,000
6	Electrical Delivery (Rita Blanca) - 2,050 ft extension, transformers, drop	\$ 23,000
7	8" PVC Pipeline - 8' PVC, Trenching, vents, connections (approx. 825ft.)	\$ 37,500
		\$ 12,000
		<hr/>
		\$ 306,500

*Figure 4: Class-B WCC Well Spacing overlap map created by Odell Ward. Test holes #1-3 were drilled on the premise of a Class-C well and Test hole #4 was later drilled for consideration because it is in a better location for farm operations.*

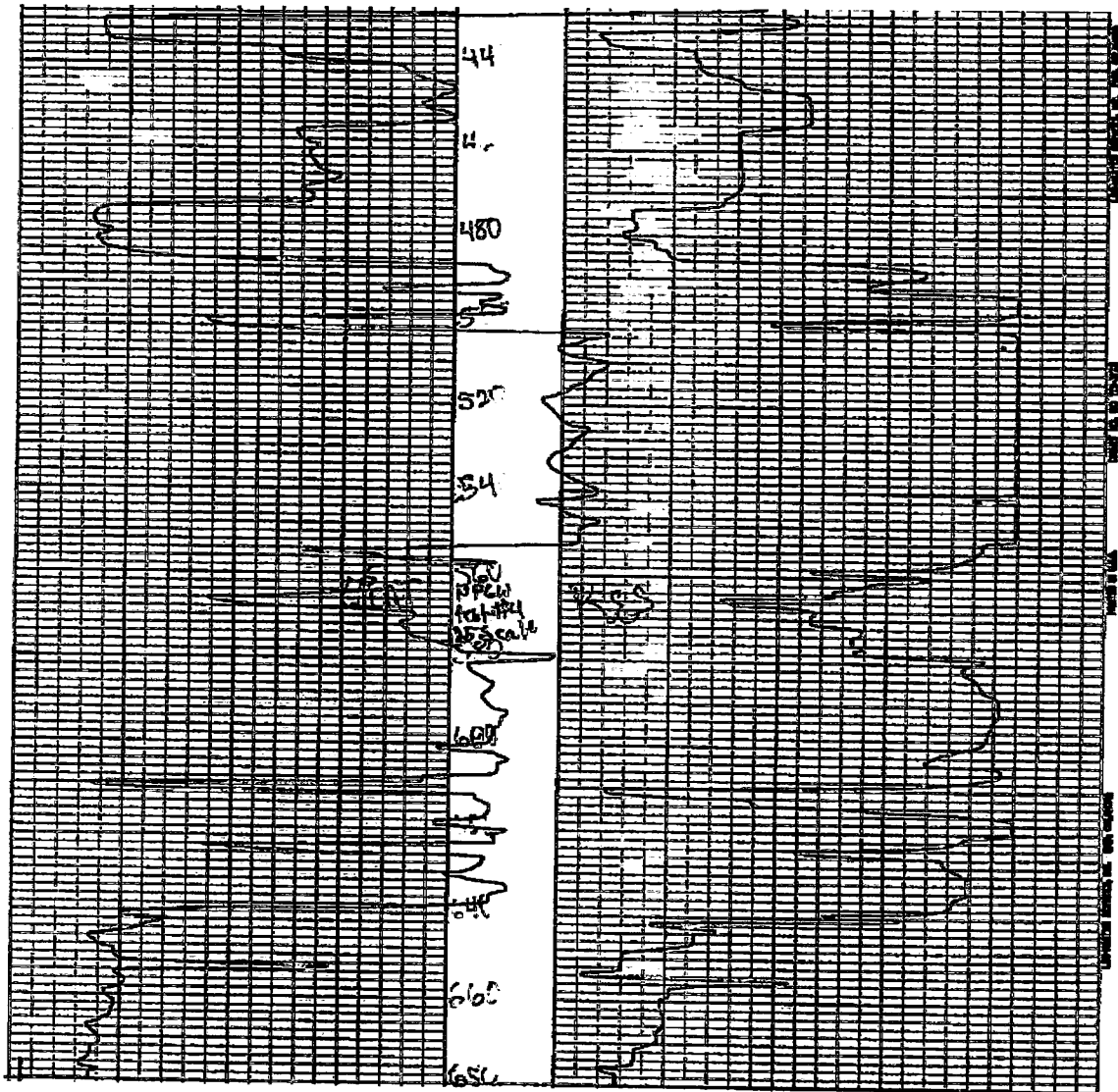


*Figure 5: Well #4 tailings.*





*Figure 6: Well #4 Resistivity Log. Water bearing formations are indicated by the log sweeps to the right of this chart. The log is consistent with the tailings, indicating that marginal production exists between 440-460 ft., then remains consistent from 490-640 ft. with minor limiting layers interspersed. This is an excellent log for an Ogallala well and the best log of the 4 test holes drilled.*

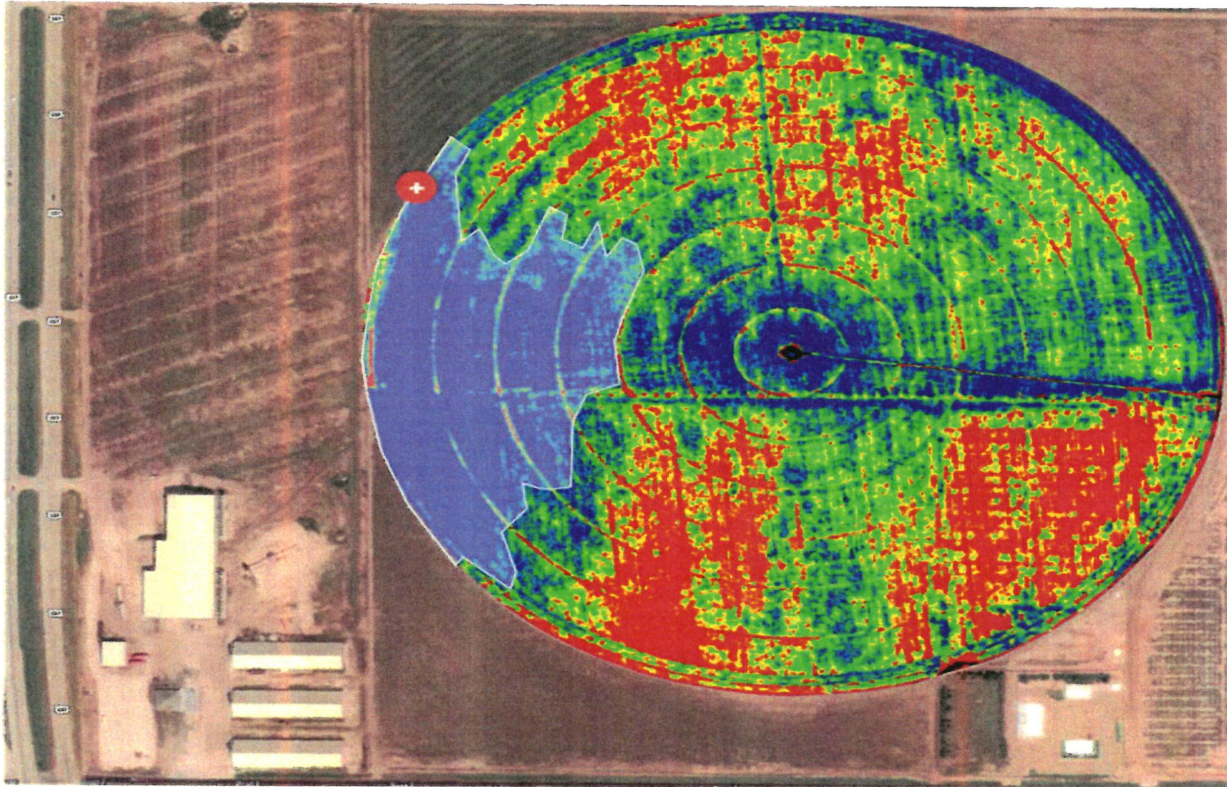


#### **Herbicide Drift on West Cotton from the Moore County Gin**

As harvest approaches, the influence of the 2,4-D drift from the Gin is becoming clearer. The impacted cotton was stunted and has remained vegetative late into the season. The area was originally estimated at 2.5 acres, but as the season has progressed, the impact area is much larger, estimated at 13.4 acres utilizing the Ceres imaging polygon tool.



*Figure 7: Area of Interest for drift on Cotton in the West Pivot. Rather than complete mortality, the drift stunted the cotton and promoted late season vegetative growth*



*Figure 8: West Pivot, 110K population cotton on 5 October. Notice the boll load toward the top of the plant. It is difficult to see, but the lower fruit load is sparse. Photo by Curtis Schwertner*

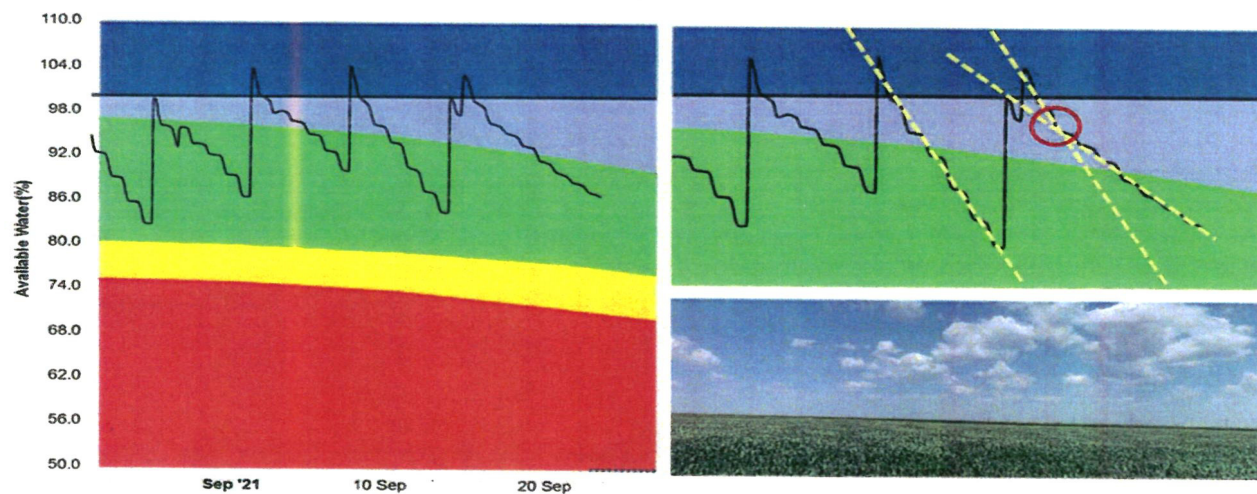




*Figure 9: Cotton in the South SDI RACE trial Plot 203 on 5 October 2021. (DP2012B3XF) Photo by Curtis Schwertner.*

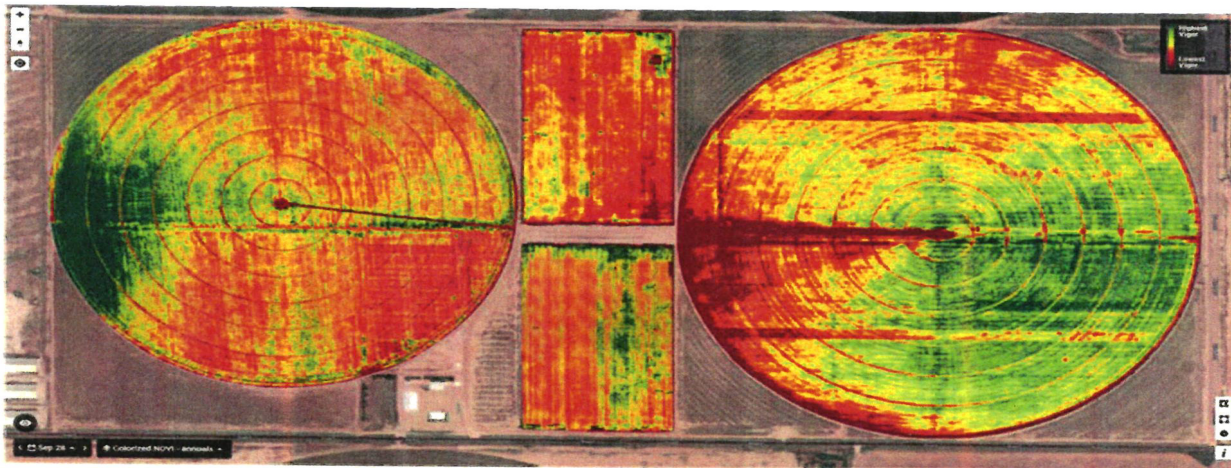


*Figure 10: East AquaSpy chart indicating the date to terminate irrigation. Notice slope of the curve make a subtle change in slope from steep to flat with a full profile. This occurred on 16 Sept and irrigation water was terminated on 19 Sept. once the pivot had finished its lap.*





*Figure 11: Colorized NDVI from Ceres on 28 September. Ceres imaging has been very helpful in highlighting points of interest at the center this year. After harvest, multiple indices will be compared in an attempt to correlate the true value of this technology.*



The \$306,500 estimate exceeds the original estimate for the new well. However, the District currently has sufficient funds in the Capital outlay budget to proceed with this project. The District is seeking an estimated cost from Hydro Resources.

Daniel L. Krienke moved to enter into a contract with Hydro Resources to drill a well at the WCC, not to exceed the amount of \$300,000.00, and to authorize the Ag Committee to oversee the completion of the well. Justin Crownover seconded the motion, and it was unanimously approved by the Board.

Assistant General Manager, Kirk Welch, presented the following report to the Board:

### **Master Irrigator 2022**

Registration is open for the Master Irrigator Class of 2022 to be held at the O'Loughlin Center in Spearman. Based on input from the Program Advisory Committee, Steve Amosson and Kirk Welch are finalizing the speakers. Currently, only a few graduates from 2021 have submitted projects for funding. The Outreach Team will contact all of the graduates to remind them that they have until May 1, 2022, to submit projects for cost share.

### **Meter Reimbursement**

The current funding through the Texas Water Development Board for the Meter Reimbursement Program will end in December. The District must have a funding procedure in place before December to be prepared to pick up where the TWDB funding leaves off. Hydrologist, Dale Hallmark prepared a procedural document that is attached here for your review. The attachment is for information only, with the plan of approving this or an alternate procedure at the November meeting.

### **Action Agenda 3.c. - Review and approve District check signing authority.**

Steve Walthour, presented the following report to the Board:

The Employment, Office, and Employee Policy Manual, adopted by the Board in 2019, requires the General Manager to recommend District employees to the Board of Directors to consider and to be authorized by the Board to sign checks on the



District's bank accounts. The purpose of this amendment is to provide the District with a more robust internal control to ensure that funds are properly paid out timely by an authorized individual. Previously, District policy designated who could authorize payment through a purchase order, but the policy was not clear on who was authorized to sign checks other than the General Manager. The District employs a two-signature checking system. Over the past year, Pauletta Rhoades has retired, and Dale Hallmark, is no longer an assistant general manager and now focuses on Hydrology duties.

The General Manager recommended that the Board authorize Steven D. Walthour (General Manager) as the primary signatory on the District's bank account Nos. 337, 116 and 256 at Perryton National Bank and on the District's bank account No. 9005805 at First State Bank, and Kirk Welch (Assistant General Manager) as the secondary signatory on the District's bank account Nos. 337, 116 and 256 at Perryton National Bank and on the District's bank account No. 9005805 at First State Bank, when the General Manager is not present; and administrative staff members Kristen Blackwell (Finance-Administration Manager) and Dusty Holt (Permitting Specialist-Finance Assistant) to provide a signature on the check they personally generate on the District's bank account Nos. 337, 116 and 256 at Perryton National Bank and on the District's bank account No. 9005805 at First State Bank.

Daniel L. Krienke moved that the Board authorize Steven D. Walthour (General Manager), as the primary signatory on the District's bank account Nos. 337, 116 and 256 at Perryton National Bank and on the District's bank account No. 9005805 at First State Bank, and Kirk Welch (Assistant General Manager), as the secondary signatory on the District's bank account Nos. 337, 116 and 256 at Perryton National Bank and on the District's bank account No. 9005805 at First State Bank, when the General Manager is not present; and administrative staff members, Kristen Blackwell (Finance-Administration Manager), and Dusty Holt (Permitting Specialist-Finance Assistant), to provide a signature on the check they personally generate from the District's bank account Nos. 337, 116 and 245 at Perryton National Bank and on the District's bank account No. 9005805 at First State Bank. Harold Grall seconded the motion, and it was unanimously approved by the Board.

***Action Agenda 3.d. - Consider the General Manager's request, in consultation with the District's auditor, to amend the Texas Water Development Board Agriculture Conservation Equipment Loan Contract Debt Service Fund for 2020-2021.***

General Manager, Steve Walthour, presented the following report to the Board:

In August 2020, the Board prepared and adopted a budget for the following year. Since the District borrowed funds from the Texas Water Development Board (TWDB) to purchase capital items for the Water Conservation Center, the General Manager budgeted \$906,261.70 for principal and interest under the TWDB Agriculture Loan Program budget item in the District's General Budget. Instead of accounting for the principal and interest owed in the District's General Budget, the District adopted a debt service fund budget for the TWDB contract and a debt service fund budget default reserve account.

The District originally planned to pay \$100,000 principal and \$14,310 interest to the TWDB in May 2021. The Board adopted TWDB Agriculture Conservation Equipment Loan Contract Debt Service Fund Budgets as follows:

**TEXAS WATER DEVELOPMENT BOARD AGRICULTURE CONSERVATION  
EQUIPMENT LOAN CONTRACT DEBT SERVICE FUND BUDGET**

<b>Description</b>	<b>Budget Amount</b>
Income	
Transfer In	\$114,310.00
Expenses	
Principal	\$100,000.00
Interest	<u>14,310.00</u>
Total Expenses	<b>\$114,310.00</b>
<b>Net Income/Expense</b>	<b>\$0.00</b>

**TEXAS WATER DEVELOPMENT BOARD AGRICULTURE CONSERVATION  
EQUIPMENT LOAN DEFAULT RESERVE ACCOUNT DEBT SERVICE  
FUNDBUDGET**

<b>Description</b>	<b>Budget Amount</b>
Investment Income	\$100.00

The TWDB Agriculture Loan Program Debt Service Fund held monies to pay principal and interest with the District's loan debt to the TWDB. Each year the Board adopted a separate budget to pay the interest and principal on the loan.

As part of the TWDB loan contract the District established a default reserve account that includes two percent of the loan amount. The account is an interest-bearing account, and the District is required to track the interest for the account. The Debt Service Fund for Default Reserve Account is for the interest income related to the Default Reserve Account.

On February 9, 2021, the Board approved paying the TWDB the remaining balance of the equipment loan fund and authorized the General Manager to take any action necessary to cancel the loan. At the time of the Board action, the District did not know the amount of the final interest that would need to be paid to close the account. The District paid the remaining balance of \$900,000.00 principal and \$12,282.75 interest. However, the District has not amended TWDB Agriculture Conservation Equipment Loan Default Reserve Account Debt Service Fund Budget.

As directed by the Board at its August 13, 2021, the General Manager recommended the Board amend the 2020-2021 TWDB Agriculture Conservation Equipment Loan Default Reserve Account Debt Service Fund Budget as follows:

**TEXAS WATER DEVELOPMENT BOARD AGRICULTURE CONSERVATION  
EQUIPMENT LOAN CONTRACT DEBT SERVICE FUND BUDGET**

<b>Description</b>	<b>Budget Amount</b>
Income	
Transfer In	\$912,282.75
Expenses	
Principal	\$900,000.00
Interest	<u>12,282.75</u>
Total Expenses	<b>\$912,282.75</b>
<b>Net Income/Expense</b>	<b>\$0.00</b>

Daniel L. Krienke moved that the Board amend the 2020-2021 debt service fund budgets as follows:

**AGRICULTURE CONSERVATION EQUIPMENT LOAN CONTRACT**  
**DEBT SERVICE FUND BUDGET**

<b>Description</b>	<b>Budget Amount</b>
Income	
Transfer In	\$912,282.75
Expenses	
Principal	\$900,000.00
Interest	<u>12,282.75</u>
Total Expenses	<b>\$912,282.75</b>
<b>Net Income/Expense</b>	<b>\$0.00</b>

Harold Grall seconded the motion, and it was unanimously approved by the Board.

**Action Agenda 3.e. - Receive report and consider action regarding compliance and contested matters before the District.**

The General Manager reported that there was no compliance or contested matters to be discussed with the Board.

**Action Agenda 3.f. - Executive Session - Section 551.071 of the Texas Government Code.**

At 11:53 a.m., Daniel L. Krienke moved to go into Executive Session in compliance with the Texas Open Meetings Act, Chapter 551 of the Texas Government Code, §551.071, to obtain legal advice on matters in which the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas conflicts with Chapter 551. Harold Grall seconded the motion, and it was unanimously approved by the Board.

Executive Session: At 11:53 a.m., the Board went into Executive Session. At 10:03 a.m., Harold Grall moved that the Board reconvene into regular session. Mark Howard seconded the motion, and it was unanimously approved by the Board. The Board reconvened into regular session at 10:03 a.m.

**Discussion Agenda 4.c. - General Manager's Report.**

Steve Walthour presented a report to the Board, which included the General Manager's activity summary, the District's activity summary and post-drill well inspections as of September 2021, and upcoming meetings and conferences.

**Discussion Agenda 4.a. - Director Reports regarding meetings and/or seminars attended, weather conditions and economic development in each Director's precinct.**

District Director reports were presented to the Board regarding meetings and/or seminars attended, weather conditions and economic development in each Director's precinct.



**Discussion Agenda 4.b. - Committee Reports.**

Except as stated herein, no other Committee reports were presented to the Board.

**Discussion Agenda 5. - Discuss Items for Future Board Meeting Agendas and Set Next Meeting Date and Time.**

By consensus, the Board set its next regular Board meeting on November 16, 2021, at 9:00 a.m.

**Agenda 6. - Adjournment.**

There being no further business to come before the meeting, Harold Grall moved to adjourn the meeting. Daniel L. Krienke seconded the motion, and it was unanimously approved. President Zimmer adjourned the meeting at 10:11 a.m.



Bob B. Zimmer, President

  
Zac Yoder, Secretary