CITY COUNCIL MEETING AND PUBLIC HEARINGS
Tuesday, May 1, 2012 7:00 p.m.
Community Recreation Center (new location)
10640 N Club House Drive, Cedar Hills, Utah

This meeting may be held electronically via telephone to permit one or more of the council members to participate.

NOTICE is hereby given that the City Council of the City of Cedar Hills, Utah, will hold public hearings in connection with their Regular City Council Meeting on Tuesday, May 1, 2012, beginning at 7:00 p.m.

COUNCIL MEETING

1. Call to Order, Invocation and Pledge
2. Public Comment: Time has been set aside for the public to express their ideas, concerns, and comments (comments limited to 3 minutes per person with a total of 30 minutes for this item)

CONSENT AGENDA

3. Minutes from the April 3, 2012, City Council Meeting and Public Hearings
4. Ordinance Setting the Location of City Council Meetings

CITY REPORTS

5. City Manager
6. Mayor and Council

SCHEDULED ITEMS AND PUBLIC HEARINGS

7. Review/Action on City Manager Performance and Contract
8. Public Hearing/Review/Action on the Preliminary Plan for Bridgestone, Plat C, Located at Approximately 9601 North and 4500 West
9. Review/Action on the Final Plan for Rhinehart Oil Gas and Convenience Store Located at Approximately 10018 North and 4800 West
10. Review/Action to Adopt the Preliminary Fiscal Year 2013 Budget (July 1, 2012 to June 30, 2013)
11. Discussion on a Civic Center Preliminary Study and Analysis
12. Review/Action on Completion of the Community Recreation Center Basement

EXECUTIVE SESSION

13. Motion to go into Executive Session, Pursuant to Utah State Code 52-4-204 and 52-4-205

* * * EXECUTIVE SESSION * * *

14. Motion to Adjourn Executive Session and Reconvene City Council Meeting

ADJOURNMENT

15. Adjourn

Posted this 27th day of April, 2012. Kim E. Holindrake, City Recorder

- Supporting documentation for this agenda is posted on the City's Web Site at www.cedarhills.org.
- In accordance with the Americans with Disabilities Act, the City of Cedar Hills will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by contacting the City Recorder at 801-785-9668 at least 48 hours in advance of the meeting to be held.
- The order of agenda items may change to accommodate the needs of the City Council, the staff, and the public.

ORDINANCE NO. _____

AN ORDINANCE SETTING THE LOCATION OF THE REGULAR MEETINGS OF THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH.

WHEREAS, §10-3-502 UCA requires that the time and place of regular City Council meetings be set by ordinance, which meetings shall be held once each month, and

WHEREAS, §52-4-202 UCA requires the City to adopt and give notice of its annual meeting schedule.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH:

SECTION I
ESTABLISHMENT OF THE LOCATION OF COUNCIL MEETINGS

Ordinance 12-6-2011A (City Code 1-5-5A) is hereby amended to change the location of council meetings of the City Council of the City of Cedar Hills for the year 2012 to the Cedar Hills Community Recreation Center, 10640 N Clubhouse Drive, Cedar Hills, Utah.

SECTION II
CONFLICTING ORDINANCES REPEALED

All other ordinances that are in conflict herewith are hereby repealed.

SECTION III
EFFECTIVE DATE

This ordinance shall take effect upon its passage and posting.

PASSED AND ORDERED POSTED BY THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH, THIS 1ST DAY OF MAY, 2012.

APPROVED:

_____
Eric Richardson, Mayor

ATTEST:

_____
Kim E. Holindrake, City Recorder

CITY OF CEDAR HILLS

TO:	Mayor and City Council
FROM:	Konrad Hildebrandt, City Manager
DATE:	5/1/2012

City Council
Agenda Item

SUBJECT:	Review/Action – City Manager Contract
APPLICANT PRESENTATION:	None
STAFF PRESENTATION:	None

BACKGROUND AND FINDINGS:

The City Council requested and per City Manager Contract provisions has completed an annual review and now will review any possible contract amendments. All amendments are required to be made in a public meeting.

City Council has been provided the original contract created in January 2002, as well as a conformed contract that include changes recommended by former City Councils for contract amendments.

There is nothing in the conformed contract that has not been previously reviewed and approved by former City Councils. There are no changes suggested to be made to the current contract.

PREVIOUS LEGISLATIVE ACTION:

None

FISCAL IMPACT:

No additional fiscal impact

SUPPORTING DOCUMENTS:

Original contract and conformed contract

RECOMMENDATION:

NA

MOTION:

Motion to approve/deny the city manager conformed contract.

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR TO ENTER INTO A CONTRACT WITH KONRAD HILDEBRANDT TO PERFORM THE DUTIES OF CITY MANAGER.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH:

Section 1. That the Mayor is hereby authorized to enter into a contract, a copy of which is attached hereto as Exhibit "A" with Konrad Hildebrandt to perform the duties of City Manager of the City of Cedar Hills, Utah.

Section 2. That this Resolution shall be and become effective immediately upon and after its adoption and approval.

PASSED AND APPROVED this 1st day of May, 2012.

_____
Eric Richardson, Mayor

ATTEST:

_____
Kim E. Holindrake, City Recorder

Employment Agreement

THIS AGREEMENT, is made and entered into this _____ day of _____, 2012, by and between the City of Cedar Hills, Utah, (the "City") and Konrad Hildebrandt ("Employee") both of whom understand as follows:

WITNESSETH

WHEREAS, Employer desires to employ the services of Employee as City Manager of the City; and

WHEREAS, it is the desire of the City Council to provide certain benefits, establish certain conditions of employment and to set working conditions of the employee; and

WHEREAS, it is the desire of the City Council to (1) secure and retain the service of Employee, and to provide inducement for him to remain in such employment; (2) to make possible full work productivity by assuring Employee's morale and peace of mind with respect to future security; and (3) to provide a just means for terminating Employee's services at such time that the City may desire to terminate his employ; and

WHEREAS, Employee desires to accept employment as City Manager of the City of Cedar Hills, Utah.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties agree as follows:

Section 1. Duties.
City hereby agrees to employ Employee as City Manager of the City of Cedar Hills, Utah to perform the functions and duties specified by the City Council, and to perform other legally permissible and proper duties and functions as the City Council shall from time to time assign.

Section 2. Term.

A. Employee serves at the pleasure of the City Council and nothing herein shall be taken to imply or suggest a term of office or guaranteed tenure, subject only to the provisions of City Ordinances and as set forth in this Agreement.

B. Nothing in this agreement shall prevent, limit or otherwise interfere with the right of the Employee to resign at any time from his position with the City. Employee agrees to give thirty (30) days advance notice of resignation by delivering written notice of such intended resignation to the Mayor.

C. Employee agrees to remain in the exclusive employ of the City, while employed by the City. The term "employed", however, shall not be construed to include

occasional teaching, writing, speaking, consulting or other business involvement on Employee's time off, even if outside compensation is provided for such services, and such activities are expressly allowed, provided that in no case is any activity allowed which would present a conflict of interest with the City of Cedar Hills, Utah.

C. This Agreement shall become effective immediately upon approval and shall be in force until such time as modified by mutual consent of the parties or unless terminated as hereinafter provided.

Section 3. Termination and Severance Pay

A. Employer reserves the right to terminate the Employee at any time, for any reason or for no specific reason. In the event that the Employee is terminated, severance pay shall be allowed Employee, pursuant to the policy set forth below.

Severance pay shall be paid as follows:

(i.) Severance pay shall be paid in an amount equal to ~~three (3)~~ nine (9) months annual salary based on the Employee's current salary rate at the time of termination. After one year, Employee's severance shall increase to six (6) months annual salary~~.~~

(ii) Severance pay shall include those benefits existing at the time of termination, said benefits to continue for the entire severance period (i.e**.,** ~~**three**~~ nine months); and,

(iii) Severance pay shall be paid as a lump sum payment within thirty (30) days of termination.

(iv) If the employee is terminated with cause (i.e. for malfeasance in office, violation of City ordinances or policies, or violations of any local, state, or federal law), Employer shall not be obligated to pay severance.

B. In the event that City at any time reduces the salary, compensation, or any other benefits of the Employee in a greater percentage than the applicable across-the-board reduction for all employees of the City; or in the event the City refuses to comply with any other provision benefitting Employee as provided by this Agreement; or the Employee resigns following a suggestion, whether formal or informal, by the City Council (or individual members) that he resign, Employee may, at his option, be deemed to be terminated, as provided herein.

C. Termination will be deemed to occur if Employee is unable to perform duties of City Manager as attested to by medical doctor of City's choosing and Employee is eligible for long term disability benefits.

D. The terms of this contract shall remain in full force and effect and holds over until employment is terminated by the City or Employee or a new contract has been negotiated and entered into by the City and Employee.

E. The parties agree that following termination of Employee's employment or upon voluntary resignation, certain responsibilities to the City may continue to exist, such as, assistance with transition to a new administration, completion of work in progress and pending litigation. The parties agree that during the period of time for which severance benefits are being paid, employee shall assist with such pending matters to such extent as needed and requested by the City, not to exceed ten (10) hours per month at mutually agreeable times, without additional compensation and with reimbursement of actual, necessary expenses. The parties further agree that if additional services are needed during a time period in which no severance is being paid, Employee shall be compensated at either his last base salary (calculated hourly) or his base salary existing at the time services are requested (calculated and paid hourly), at Employee's option with reimbursement of actual expenses.

Section 4. Compensation.

City agrees to pay Employee for his services rendered pursuant hereto an annual base salary range of $63,000 payable in installments at the same time as other employees of the City are paid, for the effective period of this Agreement, and for each year thereafter until and unless modified as provided herein. Salary adjustments shall be subject to annual inflationary adjustments, as well as performance adjustments if deemed necessary by the Mayor and/or City Council. Inflationary adjustments, based on the Salt Lake C.P.I., will begin on July 1, 2002 and occur every July thereafter, provided that the first inflationary adjustment will be based on a partial year of service.

Employee shall also receive an additional $100 per month for miscellaneous pay~~.~~

Section 5. Retirement Benefits.

Employee shall be covered and governed by the same State of Utah Public Employees Retirement Systems (PERS) provisions as all other non-civil service employees and all applicable Social Security provisions; except that Employee's share of PERS contributions over the State of Utah amount- Employee shall be paid by the City into the ICMA-RC. PERS salary shall be based on base salary. Notwithstanding that the retirement contribution is based on the PERS contribution for other employees, the contribution shall not be less than 10.34% (15.5%).

Section 6. Manager Vehicle

The City agrees to provide Employee with a City-owned vehicle of the Employee's choosing, up to a maximum value of $375/month in payments. up to a maximum value of $45,000. The vehicle shall be replaced following the city's existing vehicle replacement policy. Furthermore, the City agrees to insure the vehicle for business as well as personal use of the Employee and allow the Employee full, unrestricted use for business and personal reasons.

Section 7. Other Benefits.
All provisions, rules and regulations of the City relating to fringe benefits and working conditions as they now exist or hereafter may be amended, also shall apply to Employee as they would to all other full-time employees of the City, in addition to the benefits provided in this Agreement. Provided that, to the extent that seniority affects any benefits (including but not limited to, earned vacation leave and sick leave) such benefits shall be calculated and granted in accordance with City provisions using an equivalent original employment date of February 1, 1997. The City shall provide a starting vacation balance of 7 days or 56 hours. Additionally, the City shall pay 100% of the premiums for health and dental insurance for the Employee and his family under the City's insurance plans. The City of Cedar Hills shall provide 13 days annual administrative leave. Administrative leave is not annually accruable nor is it vacation leave. It is not the intent that employee shall take an hour of administrative leave for every hour worked over 40 hours. Rather, employee is expected to work over 40 hours whenever necessary with administrative leave being taken only on an occasional basis.

Section 8. Residence Requirements
The City Manager shall be required to live in the City during his tenure. Therefore, City shall pay for the cost of hiring a professional moving company. Employee shall obtain a minimum of three (3) bids from moving companies and the City shall pay the costs of the least expensive, up to a maximum of $2,500. The City shall grant a reasonable period of time, anticipated to be no later than August 31, 2002, for Employee to make this transition.

Section 9. Performance Evaluation/Annual Contract.
The City Council shall review and evaluate the performance of Employee on or around February 1 of each year in accordance with performance standards established by the City Council. Employee shall provide the City Council with a self-evaluation by January 15 of each year and the City Council shall complete its evaluation of Employee by February 1 of the same year. Percentage salary adjustments shall be based on positive performance appraisals.

Section 10. Professional Development.
City agrees to budget for and to pay for professional dues and subscriptions, reasonable travel and subsistence expenses incurred or used by Employee for participation in one national and one state association, and participation in one national and one state conference annually, as well as any local short courses or seminars that are necessary for his professional development and for the good of the City.

Section 11. Indemnification.
City shall defend, save harmless and indemnify Employee against any tort, professional liability claim or demand or other legal action, whether groundless or otherwise, arising out of an alleged act or omission occurring in the performance of Employee's duties as City Manager, whether or not Employee is still employed by the City. City will

compromise and settle any such claim or suit and pay the amount of any settlement or judgment rendered thereon.

Section 12. Other Terms and Conditions of Employment
The City Council, in consultation with Employee, shall fix any such other terms and conditions of employment as it may determine from time to time, relating to the performance of Employee, provided such terms and conditions are not inconsistent with or in conflict with the provisions of this Agreement, City Ordinances, Utah law, or other law.

Section 13. General Provisions.
A. The text herein shall constitute a binding agreement between the parties.

B. This agreement shall be binding upon and inure to the benefit of the heirs at law and executors of Employee

C. This agreement shall become effective upon adoption and approval by the City Council of the City of Cedar Hills, Utah.

D. If any provision, or any portion thereof, contained in this agreement is held unconstitutional, invalid or unenforceable, the remainder of this agreement, or portion thereof, shall not be affected and shall remain in full force and effect.

E. This Agreement replaces all previous contracts, employment agreements or understandings between City and Employee.

IN WITNESS WHEREOF, the City of Cedar Hills, Utah has caused this agreement to be signed and executed in its behalf by its Mayor and duly attested by its City Recorder, and Employee has signed and executed this agreement, both in duplicate, the day and year first above written.

_____
Eric Richardson, Mayor
City of Cedar Hills, Utah

ATTEST:

_____ (City Seal)
Kim E. Holindrake, City Recorder

_____
Konrad Hildebrandt, City Manager

RESOLUTION NO. 1-15-2002A

A RESOLUTION AUTHORIZING THE MAYOR TO ENTER INTO A CONTRACT WITH KONRAD HILDEBRANDT TO PERFORM THE DUTIES OF CITY MANAGER.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH:

Section 1:

That the Mayor is hereby authorized to enter into a contract, a copy of which is attached hereto as Exhibit "A" with Konrad Hildebrandt to perform the duties of City Manager of the City of Cedar Hills, Utah.

Section 2:

That this Resolution shall be and become effective immediately upon and after its adoption and approval.

PASSED AND APPROVED this the 15th day of January, 2002.

THE CITY OF CEDAR HILLS, UTAH

By: _____
Brad Sears, Mayor

ATTEST:

Kim E. Holindrake
Kim E. Holindrake, City Recorder

STATE OF UTAH SEAL CEDAR HILLS CITY RECORDER

Employment Agreement

THIS AGREEMENT, is made and entered into this 25th day of January, 2002, by and between the City of Cedar Hills, Utah, (the "City") and Konrad Hildebrandt("Employee") both of whom understand as follows:

WITNESSETH

WHEREAS, Employer desires to employ the services of Employee as City Manager of the City; and

WHEREAS, it is the desire of the City Council to provide certain benefits, establish certain conditions of employment and to set working conditions of the employee; and

WHEREAS, it is the desire of the City Council to (1) secure and retain the service of Employee, and to provide inducement for him to remain in such employment; (2) to make possible full work productivity by assuring Employee's morale and peace of mind with respect to future security; and (3) to provide a just means for terminating Employee's services at such time that the City may desire to terminate his employ; and

WHEREAS, Employee desires to accept employment as City Manager of the City of Cedar Hills, Utah.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties agree as follows:

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A. Employee serves at the pleasure of the City Council and nothing herein shall be taken to imply or suggest a term of office or guaranteed tenure, subject only to the provisions of City Ordinances and as set forth in this Agreement.

B. Nothing in this agreement shall prevent, limit or otherwise interfere with the right of the Employee to resign at any time from his position with the City. Employee agrees to give thirty (30) days advance notice of resignation by delivering written notice of such intended resignation to the Mayor.

C. Employee agrees to remain in the exclusive employ of the City, while employed by the City. The term "employed", however, shall not be construed to include occasional

teaching, writing, speaking, consulting or other business involvement on Employee's time off, even if outside compensation is provided for such services, and such activities are expressly allowed, provided that in no case is any activity allowed which would present a conflict of interest with the City of Cedar Hills, Utah.

C. This Agreement shall become effective immediately upon approval and shall be in force until such time as modified by mutual consent of the parties or unless terminated as hereinafter provided.

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Severance pay shall be paid as follows:

(i.) Severance pay shall be paid in an amount equal to three (3) months annual salary based on the Employee's current salary rate at the time of termination. After one year, Employee's severance shall increase to six (6) months annual salary.

(ii) Severance pay shall include those benefits existing at the time of termination, said benefits to continue for the entire severance period (i.e., three months); and,

(iii) Severance pay shall be paid as a lump sum payment within thirty (30) days of termination.

(iv) If the employee is terminated with cause (i.e. for malfeasance in office, violation of City ordinances or policies, or violations of any local, state, or federal law), Employer shall not be obligated to pay severance.

B. In the event that City at any time reduces the salary, compensation, or any other benefits of the Employee in a greater percentage than the applicable across-the-board reduction for all employees of the City; or in the event the City refuses to comply with any other provision benefitting Employee as provided by this Agreement; or the Employee resigns following a suggestion, whether formal or informal, by the City Council (or individual members) that he resign, Employee may, at his option, be deemed to be terminated, as provided herein.

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D. The terms of this contract shall remain in full force and effect and holds over until employment is terminated by the City or Employee or a new contract has been negotiated and entered into by the City and Employee.

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pending litigation. The parties agree that during the period of time for which severance benefits are being paid, employee shall assist with such pending matters to such extent as needed and requested by the City, not to exceed ten (10) hours per month at mutually agreeable times, without additional compensation and with reimbursement of actual, necessary expenses. The parties further agree that if additional services are needed during a time period in which no severance is being paid, Employee shall be compensated at either his last base salary (calculated hourly) or his base salary existing at the time services are requested (calculated and paid hourly), at Employee's option with reimbursement of actual expenses.

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Section 6. Manager Vehicle

The City agrees to provide Employee with a City-owned vehicle of the Employee's choosing, up to a maximum value of $375/month in payments. Furthermore, the City agrees to insure the vehicle for business as well as personal use of the Employee and allow the Employee full, unrestricted use for business and personal reasons.

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Section 8. Residence Requirements.
The City Manager shall be required to live in the City during his tenure. Therefore, City shall pay for the costs of hiring a professional moving company. Employee shall obtain a minimum of three (3) bids from moving companies and the City shall pay the costs of the least expensive, up to a maximum of $2,500. The City shall grant a reasonable period of time, anticipated to be no later than August 31, 2002, for Employee to make this transition.

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Section 11. Indemnification.
City shall defend, save harmless and indemnify Employee against any tort, professional liability claim or demand or other legal action, whether groundless or otherwise, arising out of an alleged act or omission occurring in the performance of Employee's duties as City Manager, whether or not Employee is still employed by the City. City will compromise and settle any such claim or suit and pay the amount of any settlement or judgment rendered thereon.

Section 12. Other Terms and Conditions of Employment
The City Council, in consultation with Employee, shall fix any such other terms and conditions of employment as it may determine from time to time, relating to the performance of Employee, provided such terms and conditions are not inconsistent with or in conflict with the provisions of this Agreement, City Ordinances, Utah law, or other law.

Section 13. General Provisions.
A. The text herein shall constitute a binding agreement between the parties.

B. This agreement shall be binding upon and inure to the benefit of the heirs at law and executors of Employee

C. This agreement shall become effective upon adoption and approval by the City Council of the City of Cedar Hills, Utah.

D. If any provision, or any portion thereof, contained in this agreement is held unconstitutional, invalid or unenforceable, the remainder of this agreement, or portion thereof, shall not be affected and shall remain in full force and effect.

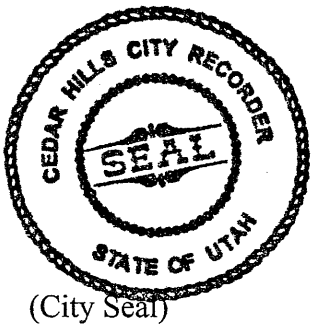
E. This Agreement replaces all previous contracts, employment agreements or understandings between City and Employee.

IN WITNESS WHEREOF, the City of Cedar Hills, Utah has caused this agreement to be signed and executed in its behalf by its Mayor and duly attested by its City Recorder, and Employee has signed and executed this agreement, both in duplicate, the day and year first above written.

Brad Sears, Mayor
City of Cedar Hills, Utah

ATTEST:

Kim E. Holindrake, City Recorder



(City Seal)

Konrad Hildebrandt, City Manager

CITY OF CEDAR HILLS

TO:	Mayor and City Council
FROM:	Greg Robinson, City Planner
DATE:	5/1/2012

City Council
Agenda Item

SUBJECT:	Bridgestone Plat C Preliminary Approval
APPLICANT PRESENTATION:	Greg Robinson, Brandon Dyer – Perry Homes
STAFF PRESENTATION:	Greg Robinson, City Planner

BACKGROUND AND FINDINGS:

Perry Homes has submitted preliminary development plans for Bridgestone Plat C. The new plan shall include two 8-plex units. A recommendation for preliminary approval was given by planning commission with several design considerations. The following items shall be addressed for consideration for approval:

- A final plat shall be prepared and submitted for approval.
- Proposed walk along 4500 West shall be a minimum of 6-feet wide.
- Proposed parking stalls along 4500 West shall be a minimum of 20-feet in depth as to not impede with walk. Drainage considerations for parking areas shall be addressed. Parking areas shall not be included in City Right-of-Way.
- Architectural renderings including material types and elevations shall be approved by City Council. All other Bridgestone plats have been approved with full brick exteriors and upgraded roofing materials. If other materials are used, they shall be consistent with upgraded exteriors.
- Landscaping shall be reviewed and approved by City Council.
- Drainage calculations, street design, and utility design shall meet City Standards and shall be approved by the City Engineer.

PREVIOUS LEGISLATIVE ACTION:

Bridgestone Plat C was platted by a previous developer with 16 total units. All approvals have expired. New legislative action must be taken to advance the plat. Based on recent legislative changes 8-plex units may be approved following a finding of fact that the development meets section 10-6B-5B, that it is appropriate for the proper development of the lot and that such increase will not result in the establishment of a hazardous condition.

FISCAL IMPACT:

N/A

SUPPORTING DOCUMENTS:

New plat and development documents are attached.

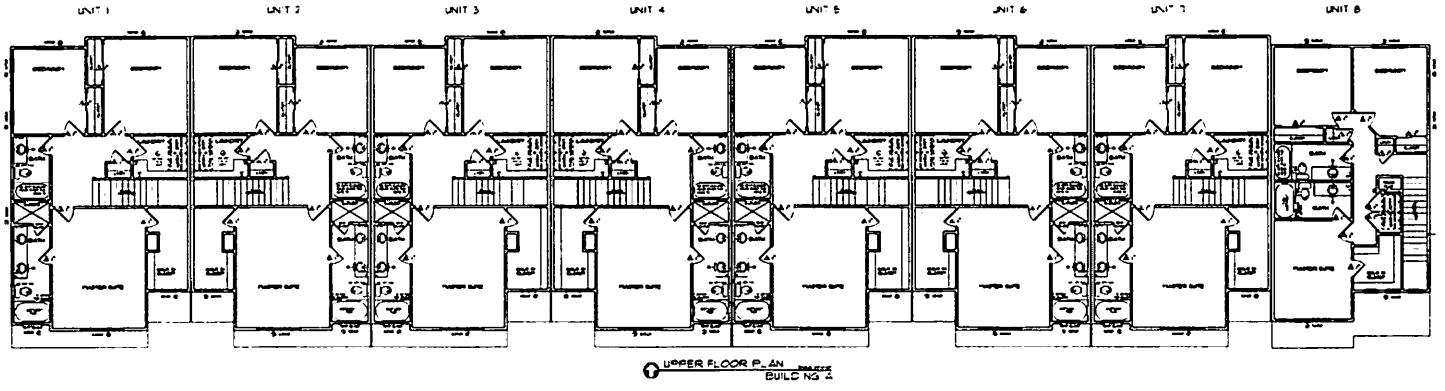
RECOMMENDATION:

Staff recommends the City Council approve the submitted Bridgestone Plat C and development plans.

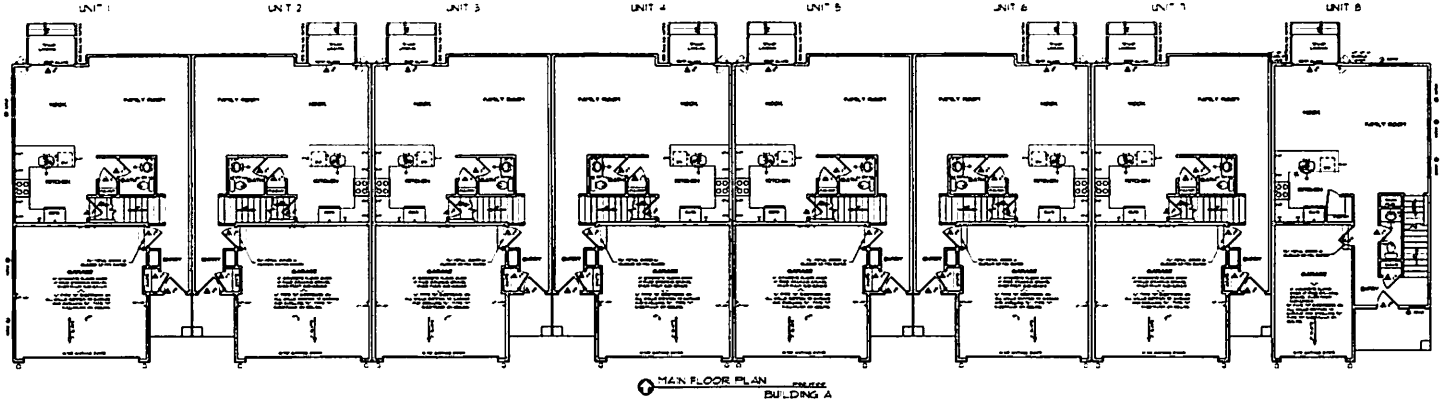
MOTION:

To approve/not approve preliminary approval of Bridgestone Plat C, subject to the following: . . . based on a finding of fact that, ...

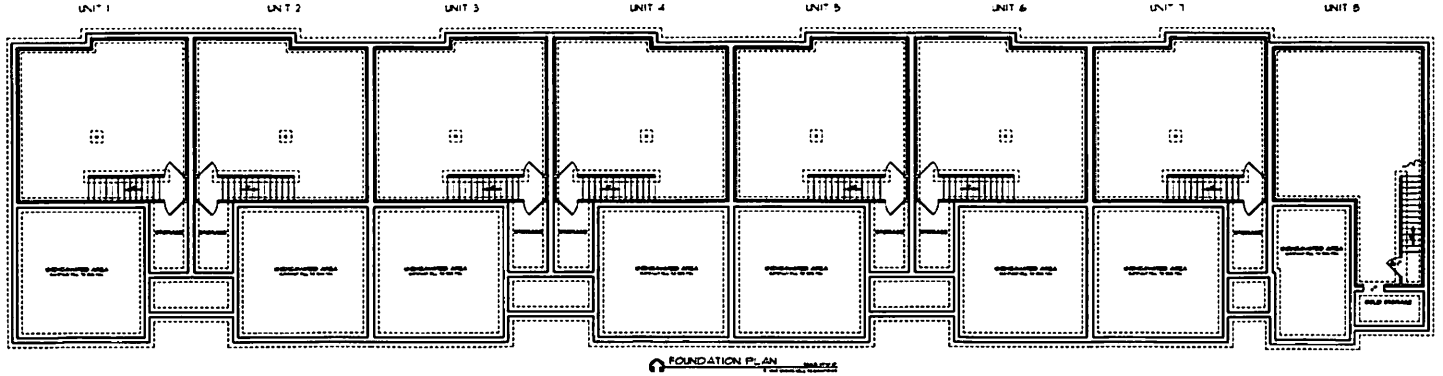
REAR ELEVATION
BUILDING A
FRONT ELEVATION
BUILDING 2
UNIT 1
UNIT 2
UNIT 3
UNIT 4
UNIT 5
UNIT 6
UNIT 7
UNIT 8
RIGHT SIDE ELEVATION
BUILDING A
LEFT SIDE ELEVATION
BUILDING A



UPPER FLOOR PLAN
BUILDING A

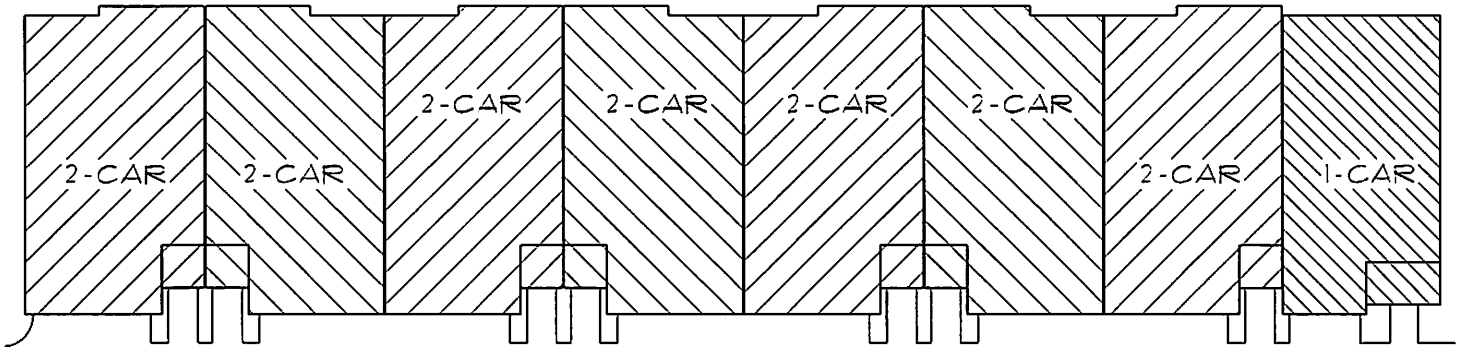


MAIN FLOOR PLAN
BUILDING A



FOUNDATION PLAN

BUILDING A



REAR ELEVATION
BUILDING 4

FRONT ELEVATION
BUILDING 4

LEFT SIDE ELEVATION
BUILDING 4

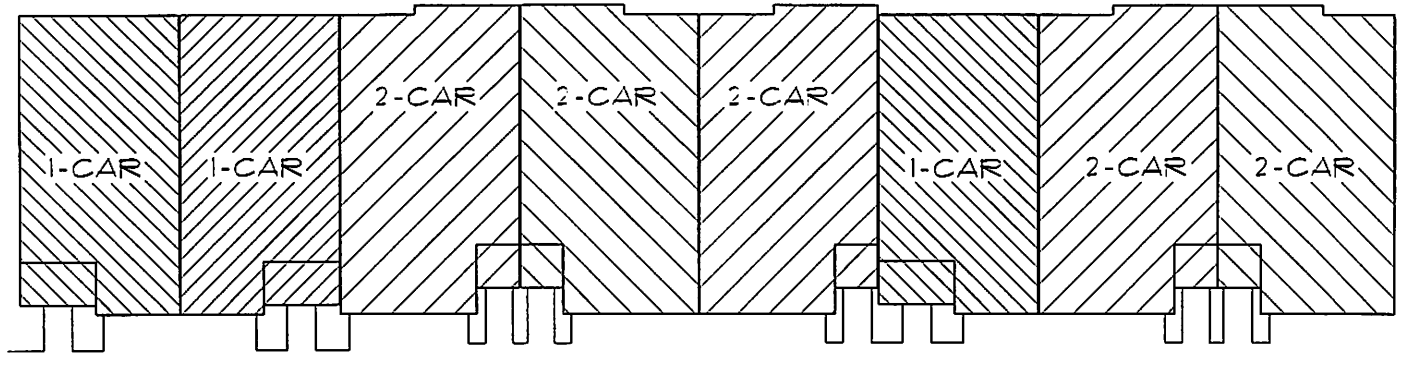
RIGHT SIDE ELEVATION
BUILDING 4

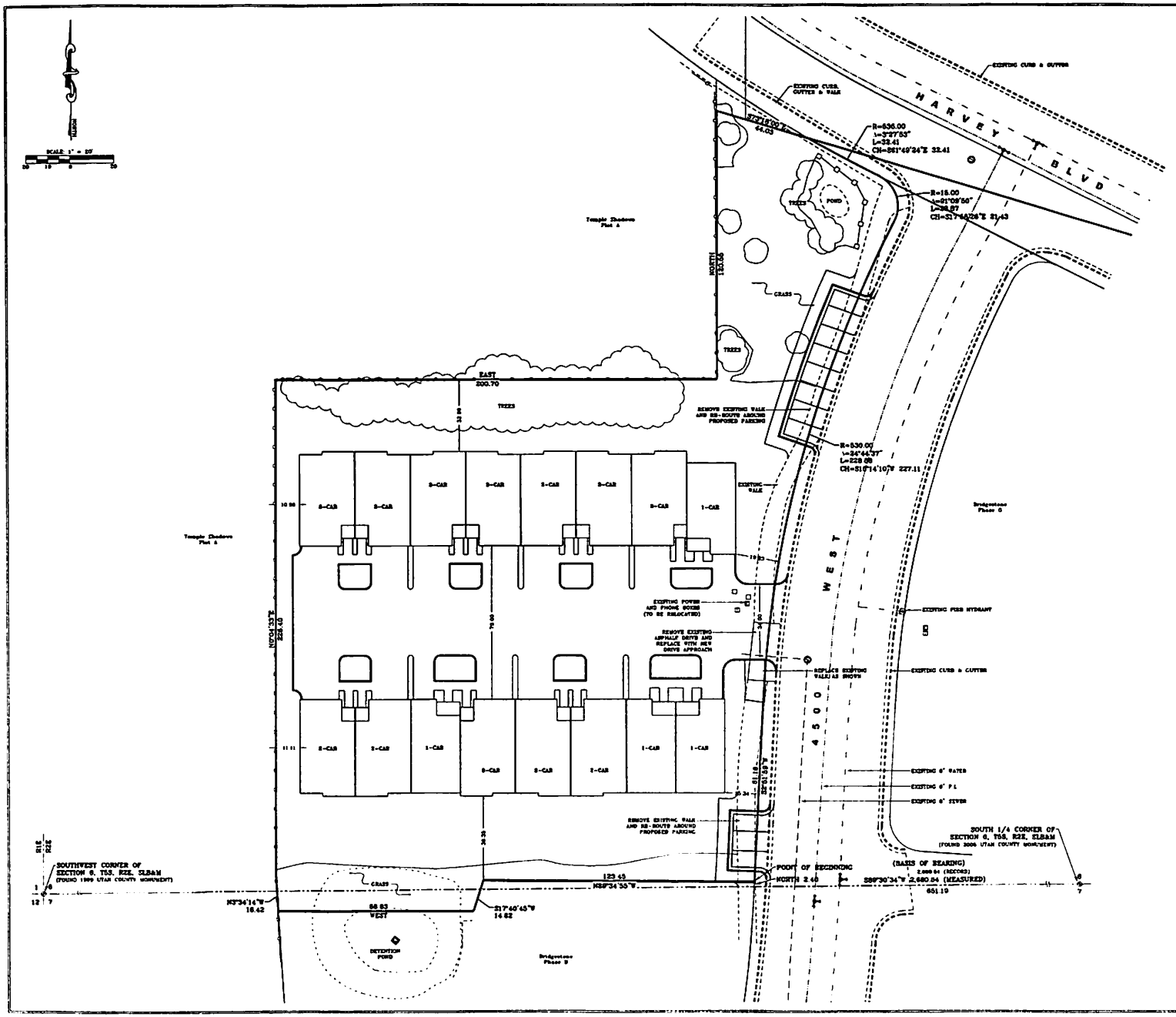
UNIT 1
UNIT 2
UNIT 3
UNIT 4
UNIT 5
UNIT 6
UNIT 7
UNIT 8
FOUNDATION PLAN

MAIN FLOOR PLAN
BUILDING B

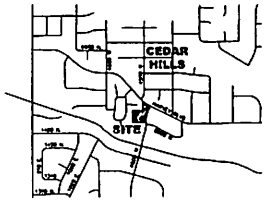
UPPER FLOOR PLAN
BUILDING B

BUILDING B





VICINITY



TABULATIONS

TOTAL AREA	69,884 SQ.FT.	(1.60 AC.)
BUILDING AREA	16,200 SQ.FT.	
PARKING/LOAD SURFACE AREA	16,884 SQ.FT.	
TOTAL IMPERVIOUS	33,084 SQ.FT.	
LANDSCAPE AREA	37,800 SQ.FT.	(0.86 AC)

PARKING CALCULATIONS
PARKING REQUIRED 30 (2 PER UNIT, PLUS 1 PER 4 UNITS)
PARKING PROVIDED 30 (FULLY ENCLOSED 2 CAR GARAGES)

NOTES:

1. ALL CONSTRUCTION TO BE DONE ACCORDING TO THE LATEST EDITION OF CEDAR HILLS CITY STANDARDS AND SPECIFICATIONS
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION
3. NO SLOPES EXCEED 30%.
4. ALL ADA ACCESSIBLE SIDEWALK RAMPS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE CEDAR HILLS CITY STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS
5. ALL VERTICAL DATA IS BASED ON NAVD88.
6. IRRIGATION SYSTEM TO HAVE RAIN SENSOR.
7. THESE PLANS ARE CONSIDERED PRELIMINARY AND NOT APPROVED FOR CONSTRUCTION UNLESS A SIGNED AND DATED APPROVAL STAMP IS AFFIXED BY THE APPROVING AGENCY/CITY
8. REFER TO CEDAR HILLS CITY STANDARD DRAWINGS FOR ALL CITY STANDARD DETAILS AND INFORMATION
9. ALL ROOF DRAINS TO DRAIN TO THE PARKING AREAS UNLESS OTHERWISE NOTED
10. ALL ON SITE STORM DRAIN IS "PRIVATE" AND IS OWNED AND MAINTAINED BY THE PROPERTY OWNER. DETENTION FACILITIES SHALL NOT BE REMOVED OR ALTERED WITHOUT APPROVAL FROM THE CITY COUNCIL AND THE CITY ENGINEER

LEGEND

- PROPOSED SEWER (SDR35- 8INCH PVC)
- PROPOSED CULINARY
- EXISTING CULINARY (C200 SDR21)
- PROPOSED PI
- EXISTING PI (C50 BLUE IRON WITH PURPLE DOCI)
- STORM DRAIN
- EXISTING WATER VALVE
- WATER VALVE
- FIRE HYDRANT
- EXISTING SEWER MANHOLE
- SEWER MANHOLE
- STORM DRAIN MANHOLE
- STORM DRAIN SUMP
- CATCH BASIN
- CURB INLET
- STREET LIGHT
- STREET SIGN
- STREET IRRIGATION BOX
- TELEPHONE JUNC BOX
- ELECTRICAL BOX
- POWER POLE
- SHED CURB

SHEET INDEX

DEVELOPER

PERRY HOMES
BRANDON DYER
17 E. WINCHESTER #200
MURRAY, UTAH 84107
PH (801) 284-5809

ENGINEER

LEI CONSULTING ENGINEERS AND SURVEYORS, INC
14441 SOUTH 900 WEST
BLUFFDALE, UT 84065
PH (801) 495-2844
FAX (801) 495-2847

PROJECT NAME

PERRY HOMES
LEHI, UTAH

LEI
ENGINEERS
SURVEYORS
PLANNERS
3302 N. Main Street
Spanish Fork, UT 84660
Phone: 801.798.0555
Fax: 801.798.9393
office@lei-eng.com
www.lei-eng.com

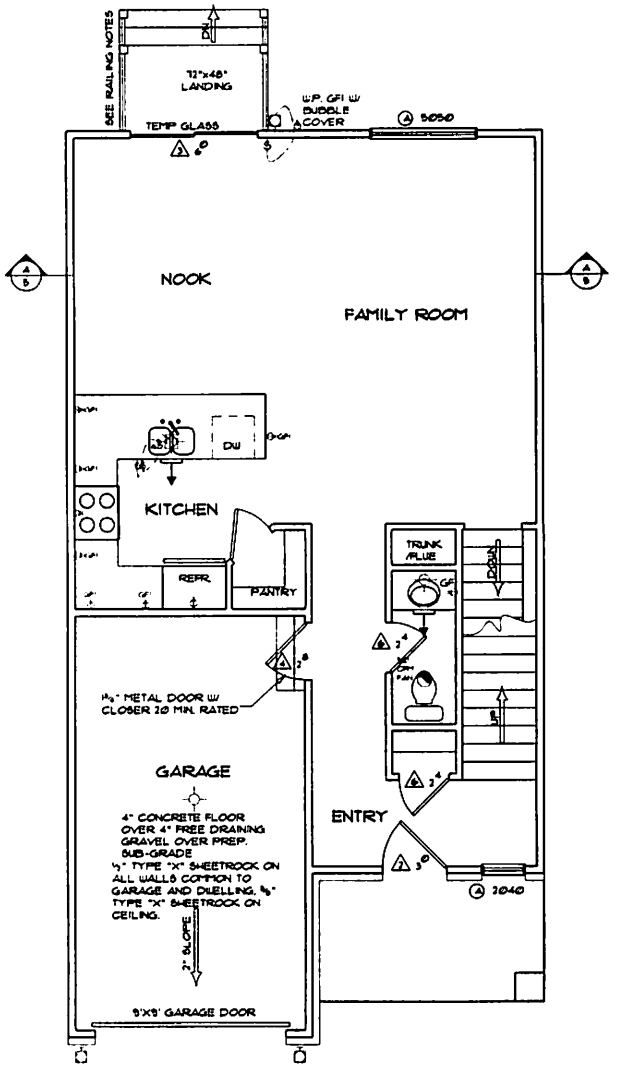
PERRY HOMES - TOWNHOMES

4500 WEST HARVEY BLVD., CEDAR HILLS, UTAH

SITE PLAN - CONCEPT - OPT. A

REVISIONS

LEI PROJECT #	2011-0442
DRAWN BY	JSB
CHECKED BY	BTG
SCALE:	1" = 20'
DATE:	7/8/2011
SHEET	1

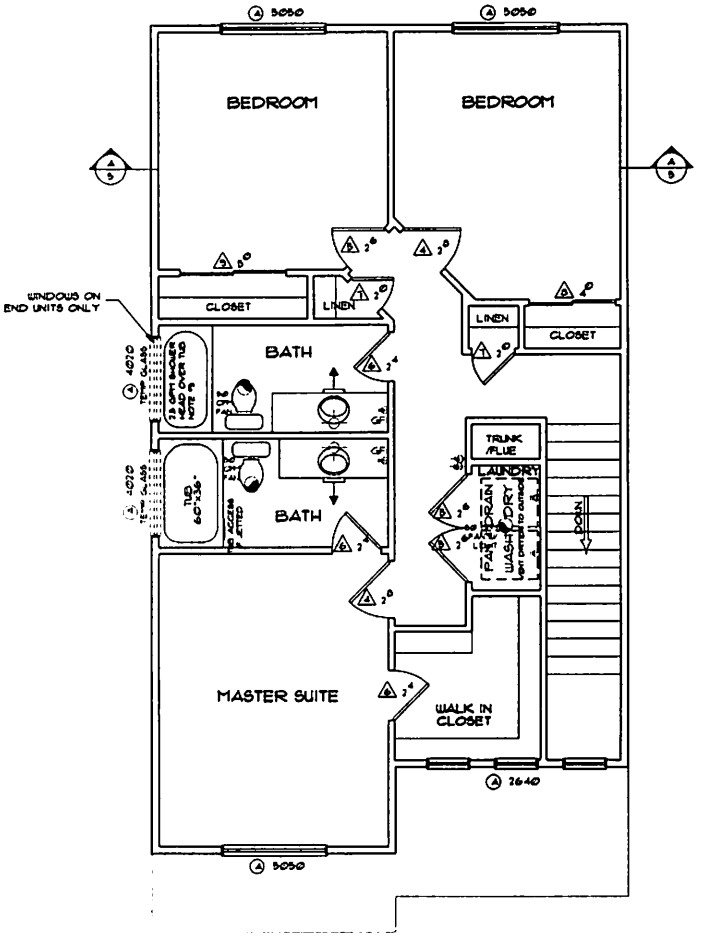


MAIN FLOOR PLAN

640 SQUARE FEET

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

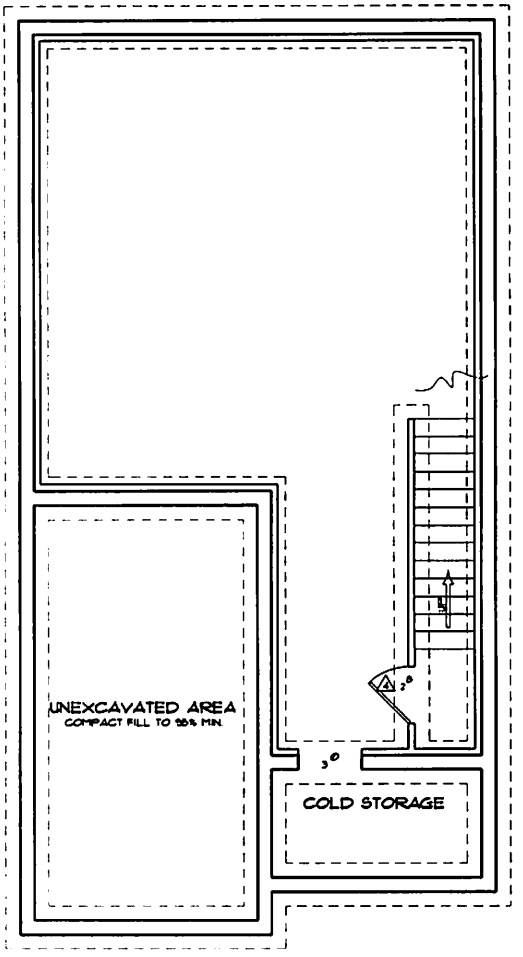
760 UPPER FLOOR
+ 640 MAIN FLOOR
1400 TOTAL #

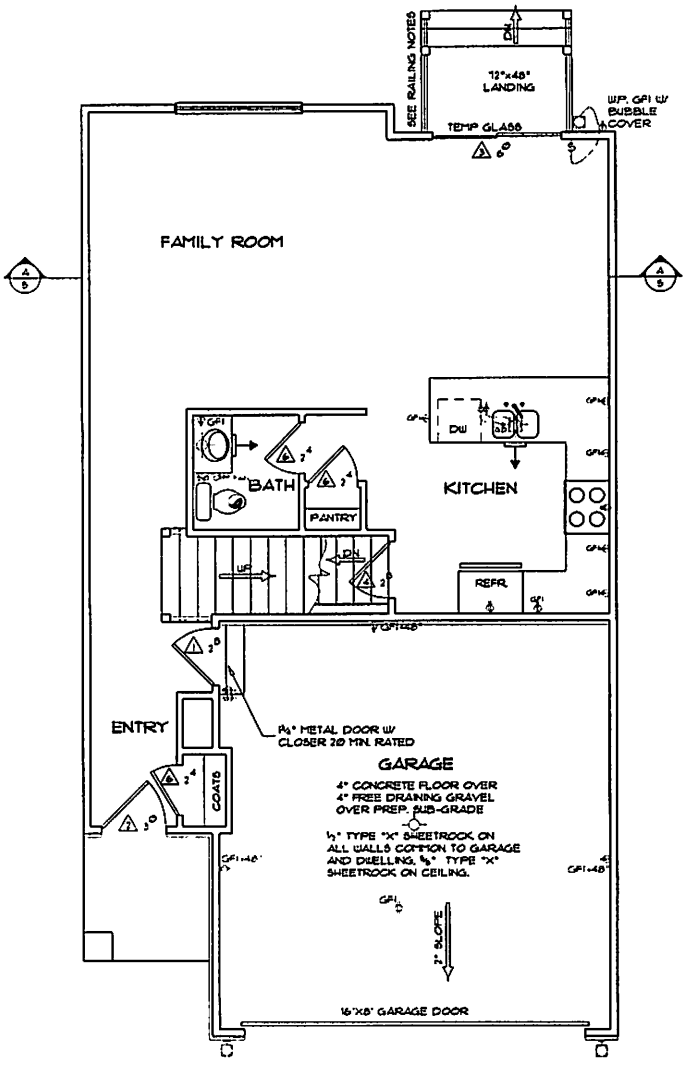


UPPER FLOOR PLAN

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

760 SQUARE FEET


UNEXCAVATED AREA
COMPACT FILL TO 95% MIN.
2'
3'
COLD STORAGE

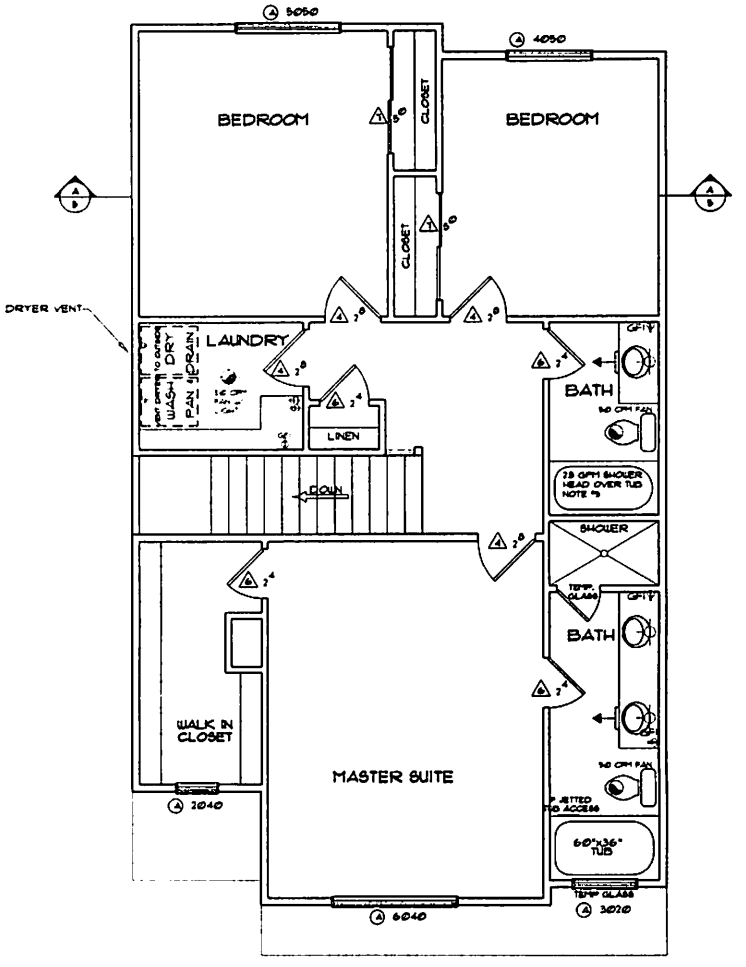


MAIN FLOOR PLAN

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

655 SQUARE FEET

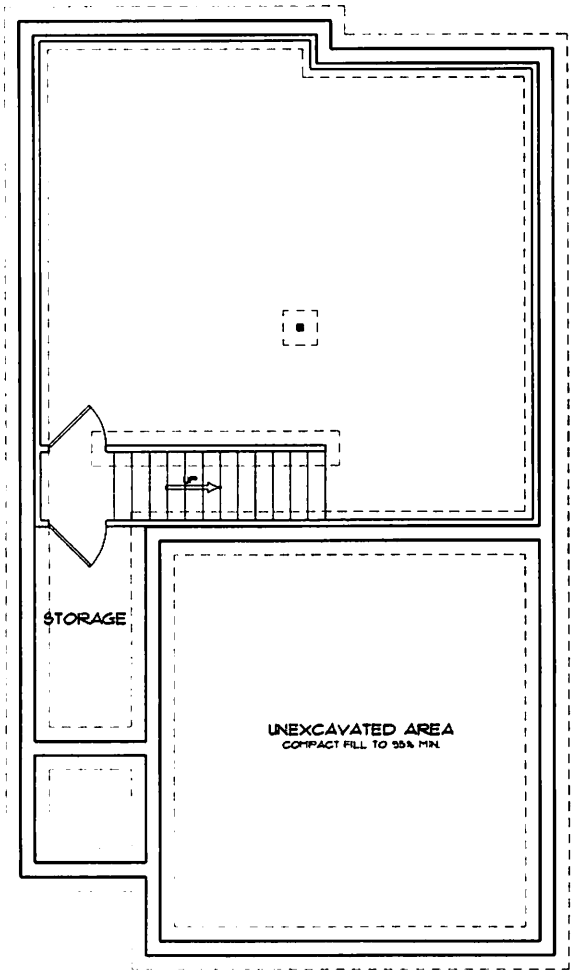
929 UPPER FLOOR
+ 655 MAIN FLOOR
1584 TOTAL #



UPPER FLOOR PLAN

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

929 SQUARE FEET



FOUNDATION PLAN

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

x SQUARE FEET

* SEE WINDOW WELL REQUIREMENTS

CITY OF CEDAR HILLS

TO:	Mayor and City Council
FROM:	Konrad Hildebrandt, City Manager
DATE:	5/1/2012

City Council
Agenda Item

SUBJECT:	Review/Action on the Final Plan for Rhinehart Oil Gas and Convenience Store Located at Approximately 10018 North and 4800 West
APPLICANT PRESENTATION:	Dave Jardine, Rhinehart Oil, Vice President
STAFF PRESENTATION:	Greg Robinson, City Planner

BACKGROUND AND FINDINGS:

Harts Gas Station has submitted final plans. A copy of the City Council motion is attached. Included in the motion are several areas which have items to address. Some notes from the meeting include the following:

- Final Plat shall be prepared. Right of Way Dedication shall be identified on the final plat. Street dedication shall be required to the east property line. A phasing plan shall be submitted as part of the plat.
- An executed development agreement shall be required. The agreement shall include but not be limited to water rights required, ROW maintenance, use of fuel supplies for City emergency use, etc.
- A final signage plan shall be submitted.
- Exterior sales areas shall be identified including Ice, Propane, or vending machines. Screening for the refrigeration unit shall be approved.
- Landscape plan shall meet intent of design guidelines and existing plantings of the commercial zone. The concrete area under the canopy shall be colored but not stamped.

City Council can approval based on submittal or completion of the required items.

PREVIOUS LEGISLATIVE ACTION:

Preliminary approval

FISCAL IMPACT:

N/A

SUPPORTING DOCUMENTS:

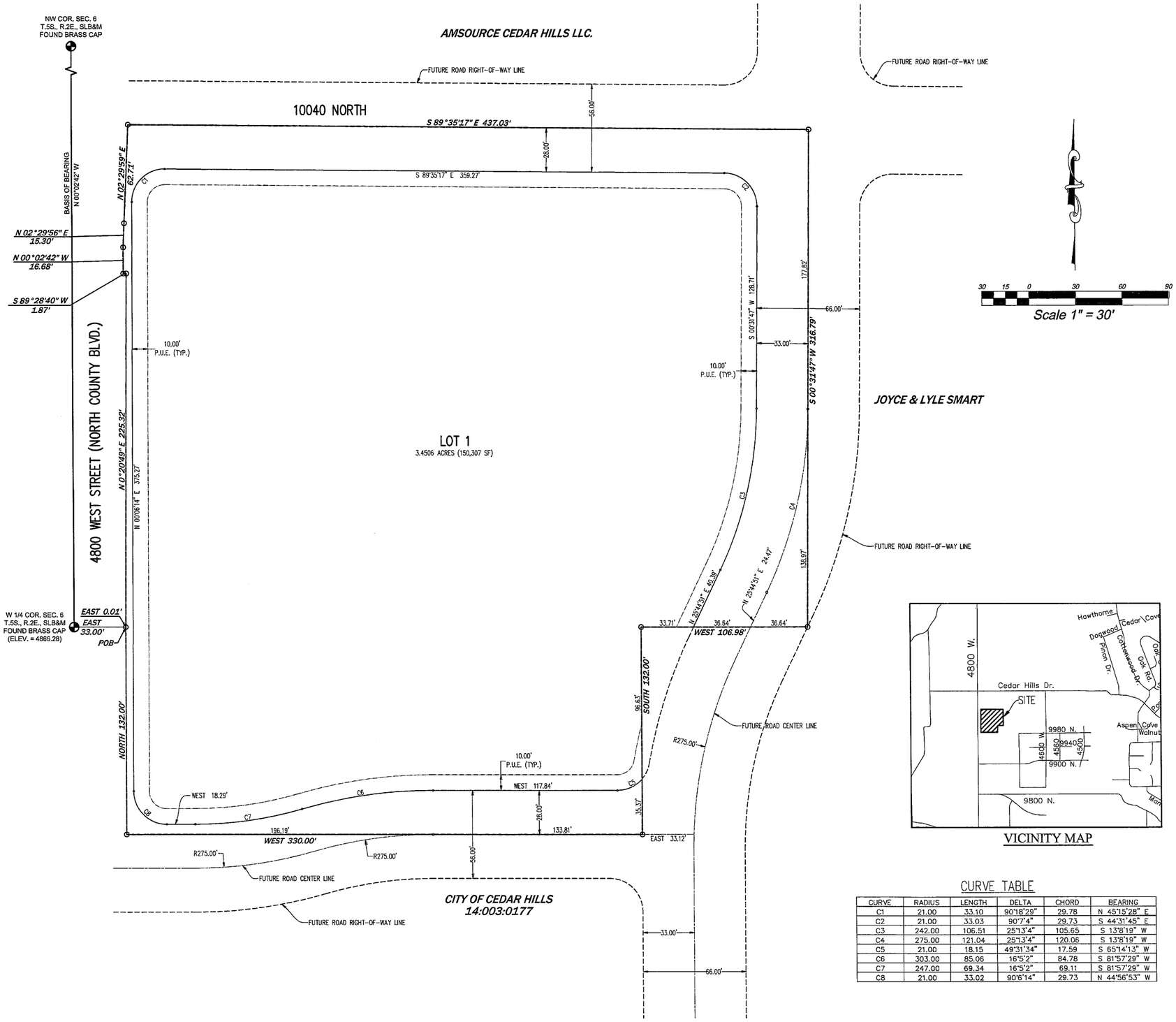
Final Site Plan Approval Documents
Cedar Hills/Harts Development Agreement

RECOMMENDATION:

Staff recommends the City Council review and give final approval to Hart's Gas Station based on findings of fact for information submitted, and any further requirements as necessary.

MOTION:

To approve/not approve final approval for Harts Gas Station subject to the following items, . .



VICINITY MAP

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD	BEARING
C1	21.00	33.10	90°18'29"	29.78	N 45°15'28" E
C2	21.00	33.03	90°7'4"	29.73	S 44°31'45" E
C3	242.00	106.51	25°13'4"	105.65	S 13°8'19" W
C4	275.00	121.04	25°13'4"	120.06	S 13°8'19" W
C5	21.00	18.15	49°31'34"	17.59	S 65°14'13" W
C6	303.00	85.06	16°5'2"	84.78	S 81°57'29" W
C7	247.00	69.34	16°5'2"	69.11	S 81°57'29" W
C8	21.00	33.02	90°6'14"	29.73	N 44°56'53" W

SURVEYOR'S CERTIFICATE

I, AARON D. THOMAS, DO HEREBY CERTIFY THAT I AM A LICENSED LAND SURVEYOR, AND THAT I HOLD LICENSE NO. 6418780 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF UTAH, I FURTHER CERTIFY BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, AND HAVE SUBDIVIDED SAID TRACT OF LAND IN LOTS, BLOCKS, STREETS, AND EASEMENTS AND THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT AND THAT THIS PLAT IS TRUE AND CORRECT.

DATE (SEE SEAL BELOW)

BOUNDARY DESCRIPTION

BEGINNING AT A POINT LOCATED EAST 33.00 FEET FROM THE WEST QUARTER CORNER OF SECTION 6, TOWNSHIP 5 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN;

THENCE EAST 0.01 FEET; THENCE NORTH 00°20'49" EAST 225.32 FEET; THENCE SOUTH 89°28'40" WEST 1.87 FEET; THENCE NORTH 00°02'42" WEST 16.68 FEET; THENCE NORTH 02°29'56" EAST 15.30 FEET; THENCE NORTH 02°29'59" EAST 62.71 FEET; THENCE SOUTH 89°35'17" EAST 437.03 FEET; THENCE SOUTH 00°31'47" WEST 316.78 FEET; THENCE WEST 106.98 FEET; THENCE SOUTH 132.00 FEET; THENCE WEST 330.00 FEET; THENCE NORTH 132.00 FEET TO THE POINT OF BEGINNING.

AREA = 4.199 ACRES (1 LOT)

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT WE, ALL OF THE UNDERSIGNED OWNERS OF ALL OF THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE HERON AND SHOWN ON THE MAP, AND SUBJECT TO ANY CONDITIONS AND RESTRICTIONS STATED HEREON, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, BLOCKS, STREETS, AND EASEMENTS AND DO HEREBY DEDICATE THE STREETS AND OTHER PUBLIC AREAS AS INDICATED HEREON FOR PERPETUAL USE OF THE PUBLIC.

IN WITNESS HEREOF, WE HAVE HEREUNTO SET OUR HANDS THIS _____ DAY OF _____ A.D. 20__.

ACKNOWLEDGMENT

STATE OF UTAH, S.S.
COUNTY OF UTAH

ON THE _____ DAY OF _____, 20__, PERSONALLY APPEARED BEFORE ME THE SIGNERS OF THE FOREGOING DEDICATION WHO DULY ACKNOWLEDGE TO ME THAT THEY DID EXCUTE THE SAME.

MY COMMISSION EXPIRES NOTARY PUBLIC (SEE SEAL BELOW)

ACCEPTANCE BY LEGISLATIVE BODY

THE CITY COUNCIL OF CEDAR HILLS CITY, COUNTY OF UTAH, APPROVES THIS SUBDIVISION SUBJECT TO THE CONDITIONS AND RESTRICTIONS STATED HEREON AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC.
THIS _____ DAY OF _____, 20__.

MAYOR

APPROVED
ENGINEER (SEE SEAL BELOW)

ATTEST
CLERK RECORDER (SEE SEAL BELOW)

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____, 20__, BY THE CITY OF CEDAR HILLS PLANNING COMMISSION.

DIRECTOR - SECRETARY CHAIRPERSON, PLANNING COMMISSION

PLAT "A"

RHINEHART LAND

SUBDIVISION

CEDAR HILLS, UTAH COUNTY, UTAH

SCALE: 1" = 30 FEET

Surveyor's Seal	Notary Public Seal	City Engineer's Seal	Clerk-Recorder Seal

BMP: Catch Basin Cleaning — CBC

Program Elements

- ☐ New Development
- ☐ Residential
- ☐ Commercial Activities
- ☐ Industrial Activities
- ☒ Municipal Facilities
- ☒ Illegal Discharges

Description:
Maintain catch basin and stormwater inlets on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, and restore the catch basins' sediment trapping capacity. A catch basin is distinguished from a stormwater inlet by having at its base a sediment sump designed to catch and retain sediments below the overflow point. This information sheet focuses on the cleaning of accumulated sediments from catch basins.

Approach:
Regular maintenance of catch basins and inlets is necessary to ensure their proper functioning. Clogged catch basins are not only useless but may act as a source of sediments and pollutants. In general, the key to effective catch basins are:

- At least annual inspections.
- Prioritize maintenance to clean catch basins and inlets in areas with the highest pollutant loading.
- Clean catch basins in high pollutant load areas just before the wet season to remove sediments and debris accumulated during the summer.
- Keep accurate logs of the number of catch basins cleaned.
- Record the amount of waste collected.

Limitations:
There are no major limitations to this best management practice.

Maintenance:
Regular maintenance of public and private catch basins and inlets is necessary to ensure their proper functioning. Clogged catch basins are not only useless but may act as a source of sediments and pollutants. In general, the keys to effective catch basins are:

- Annual/monthly inspection of public and private facilities to ensure structural integrity, a clean sump, and a stenciling of catch basins and inlets.
- Keep logs of the number of catch basins cleaned.
- Record the amount of waste collected.

Adapted from Salt Lake County BMP Fact Sheet

Targeted Pollutants

- ■ Sediment
- ☒ Nutrients
- ■ Heavy Metals
- ☐ Toxic Materials
- ☒ Oxygen Demanding Substances
- ☒ Oil & Grease
- ■ Floatable Materials
- ☐ Bacteria & Viruses

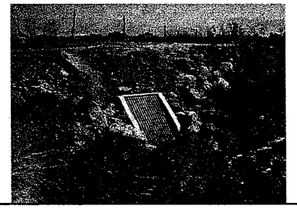
- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements

- ☒ Capital Costs
- ■ O&M Costs
- ☐ Regulatory
- ☒ Training
- ■ Staffing
- ☒ Administrative

■ High ☒ Medium ☐ Low

BMP: BMP Inspection and Maintenance — BMPIM



Applications

- ☐ Manufacturing
- ☒ Material Handling
- ☒ Vehicle Maintenance
- ☐ Construction
- ☐ Commercial Activities
- ☐ Roadways
- ☒ Waste Containment
- ☒ Housekeeping Practices

Description:
Inspect and maintain all structural BMP's (both existing and new) on a routine basis to remove pollutants from entering storm drain inlets. This includes the establishment of a schedule for inspections and maintenance.

Approach:
Regular maintenance of all structural BMP's is necessary to ensure their proper functionality.

- Annual inspections.
- Prioritize maintenance to clean, maintain, and repair or replace structures in areas beginning with the highest pollutant loading.
- Clean structural BMP's in high pollutant areas just before the wet season to remove sediments and debris accumulated during the summer and fall.
- Keep accurate logs of what structures were maintained and when they were maintained.
- Record the amount of waste collected.

Limitations:

- Availability of trained staff

Targeted Pollutants

- ■ Sediment
- ■ Nutrients
- ☐ Heavy Metals
- ■ Toxic Materials
- ☐ Oxygen Demanding Substances
- ■ Oil & Grease
- ■ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements

- ■ Capital Costs
- ■ O&M Costs
- ☒ Maintenance
- ☒ Staffing
- ☐ Training
- ☐ Administrative

■ High ☒ Medium ☐ Low

BMP: Parking Lot Sweeping/Vacuuming — PLSV

Program Elements

- ☐ New Development
- ☐ Residential
- ☒ Commercial Activities
- ☒ Industrial Activities
- ☒ Municipal Facilities
- ☒ Illegal Discharges

Description:
Reduce the discharges of pollutants to stormwater from parking lot surfaces by conducting parking lot cleaning on a regular basis.

Approach:

- Restrict parking prior to and during sweeping.
- Establish frequency of sweeping based on anticipated need and observations of debris or sediment accumulation
- Increase sweeping frequency just before the rainy season.
- Lots that generate greater amounts of debris or sediment must be swept more frequently. These include lots associated with or adjacent to recreational, commercial, or industrial areas, or other areas of high vehicle or pedestrian traffic.
- Manually remove debris from corners or other areas of the parking lot that equipment cannot reach.
- Keep accurate operation logs to track programs.
- Equipment selection can be key for this particular BMP. There are two types used, the mechanical broom sweepers (more effective at picking up large debris and cleaning wet streets), and the vacuum sweepers (more effective at removing fine particles and associated heavy metals). It may be useful to have the ability to use both kinds.

Limitations:

- Conventional sweepers are not able to remove oil and grease.
- Mechanical sweepers are not effective at removing finer sediments.
- Effectiveness may also be limited by parking lot conditions, presence of parked vehicles, presence of construction projects, climatic conditions and condition of curbs.

Maintenance:

- Acquisition and maintenance of equipment is generally handled by the company hired to perform the sweeping/vacuuming.

Targeted Pollutants

- ■ Sediment
- ■ Nutrients
- ■ Heavy Metals
- ☒ Toxic Materials
- ■ Oxygen Demanding Substances
- ☐ Oil & Grease
- ☒ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements

- ☐ Capital Costs
- ☒ O&M Costs
- ☐ Regulatory
- ☐ Training
- ☐ Staffing
- ☒ Administrative

■ High ☒ Medium ☐ Low

POST CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN NOTES:

1. CATCH BASINS ON THE SITE ARE TO BE INSPECTED AND CLEANED IN THE SPRING AND THE FALL AS PER BMP CBC.
2. ALL GRASS LANDSCAPING IS TO BE MAINTAINED TO CONTROL EROSION FROM THE SITE.
3. PARKING LOT TO BE SWEPT IN SPRING AND FALL AS PER BMP PLSV.
4. THE OWNER OF THE PROPERTY WILL BE RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF THE ABOVE MENTIONED PRACTICES.

POST CONSTRUCTION S.W.M.P. NOTE:

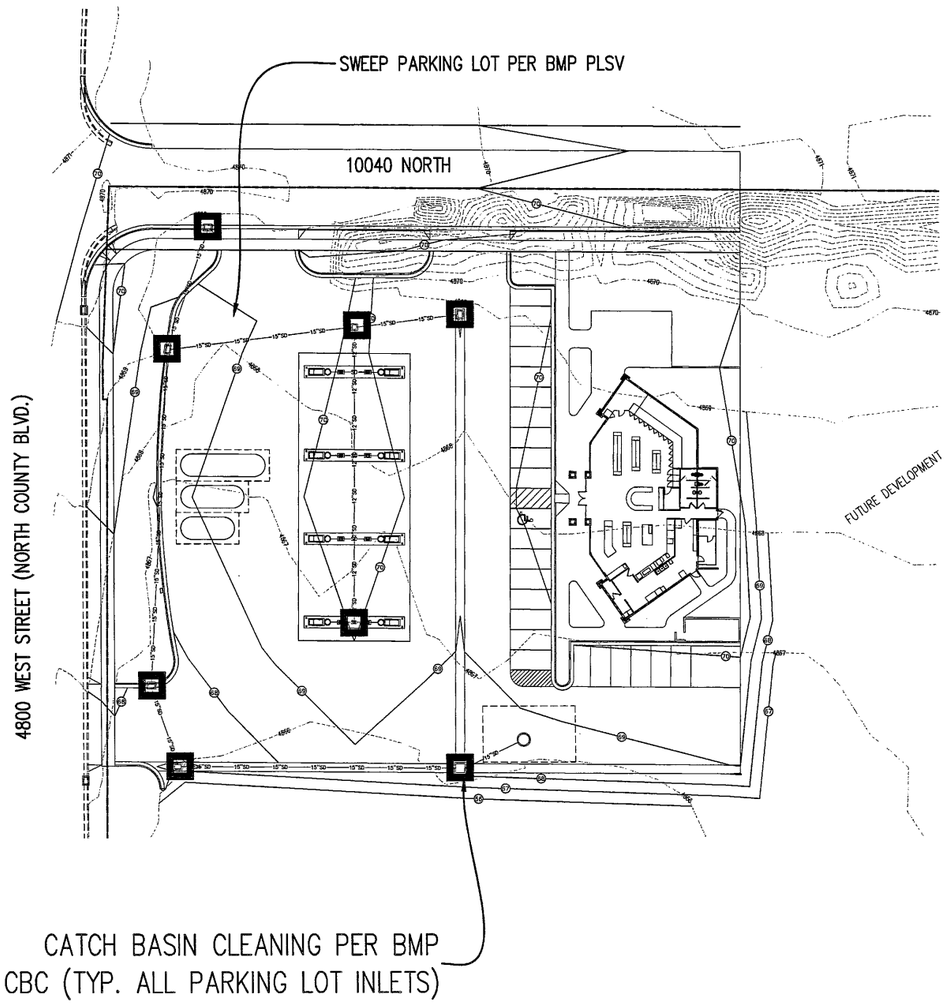
The holders of the business license at this site (or owner of the lot if there is not business license) are responsible to perpetually follow this Post Construction Storm Water Management Plan. Failure to follow the plan may result in the City refusing to renew business licenses or take other action against the property owner.

The objectives of the Plan are to:

1. Control soil erosion.
2. Control discharge of sediment into storm drainage facilities or off-site.
3. Prevent illicit discharges into on-site soils, into storm drainage facilities or offsite.

If the objectives of the Plan are not being met, the site operator or owner shall make adjustments to the Plan as needed to accomplish its purposes.

Cedar Hills encourages adjustments to the plan that enhance effective storm water management. However, significant reduction of practices contained in the plan is to be accomplished through formal modification of the plan and resubmission to the Development Review Committee for approval.



30 15 0 30 60 90

Scale 1" = 30'

REVISIONS			
Rev.	Date	Description	App'd

HARTS GAS STATION

CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

Developer: Dave Jardine
P.O. Box 418
American Fork, UT 84003
Phone: 801-756-9681

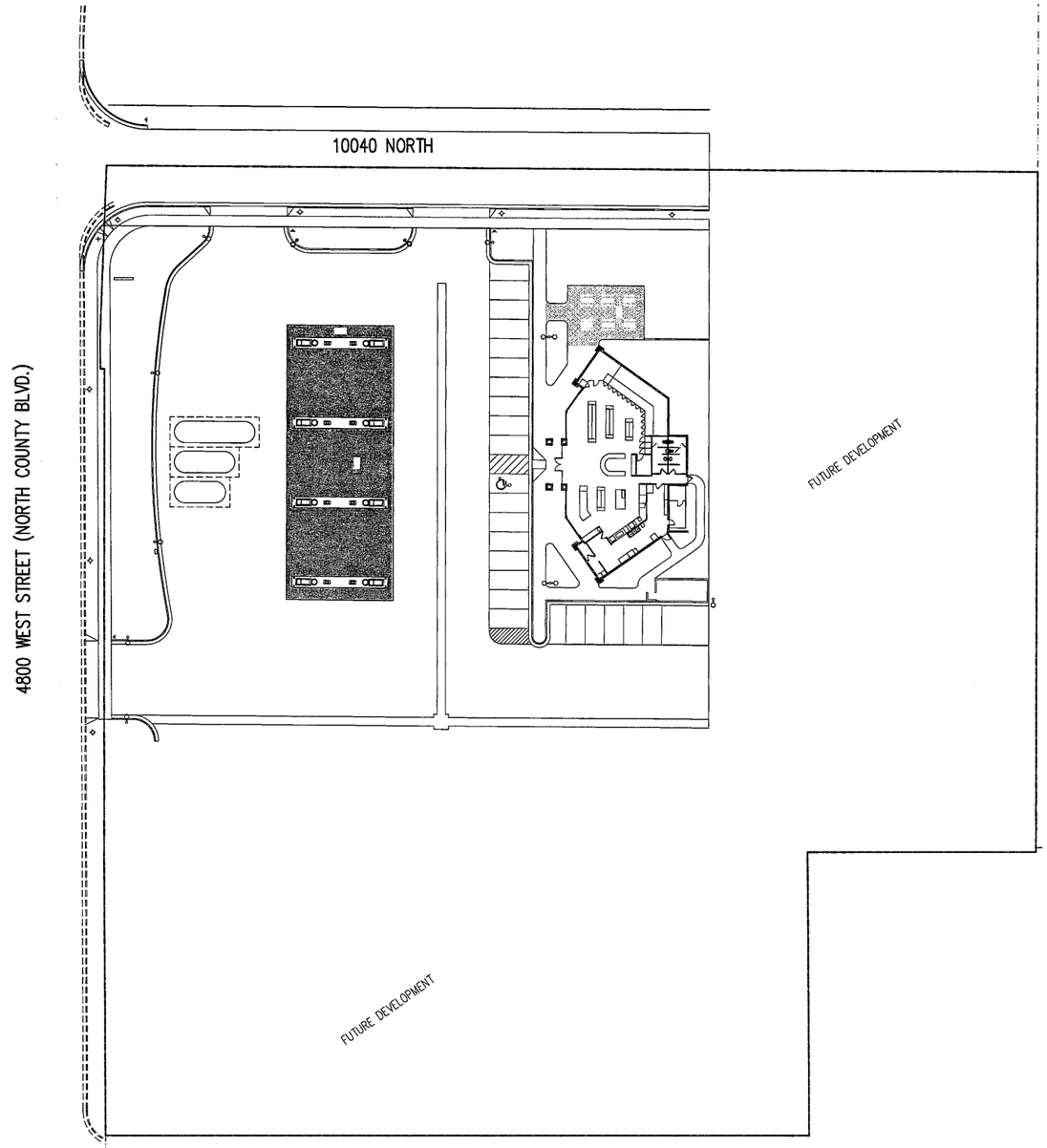
EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201, American Fork, UT 84003
P: (801) 756-4504; F: (801) 756-4511

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

POST CONSTUCTION STORM WATER MANAGEMENT PLAN

Scale: 1"=30'
Date: 04/09/12

C6



30 15 0 30 60 90

Scale 1" = 30'

CALL BEFORE YOU DIG
IT'S FREE &
IT'S THE LAW
(TOLL-FREE)
1-800-662-4111
208-2100
(SALT LAKE METRO)
Blue Stakes of Utah
UTILITY NOTIFICATION CENTER, INC.
205 WEST 700 SOUTH, SUITE 101
SALT LAKE CITY, UTAH 84101

BENCH MARK

WEST 1/4 CORNER, SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST,
SALT LAKE BASE & MERIDIAN
ELEVATION = 4866.28

REVISIONS

Rev.	Date	Description	App'd

Developer: Dave Jardine
P.O. Box 418
American Fork, UT 84003
Phone: 801-756-9681

EXCEL ENGINEERING
David W. Peterson, P.E., License #270593
12 West 100 North, Suite 201, American Fork, UT 84003
P: (801) 756-4504; F: (801) 756-4511

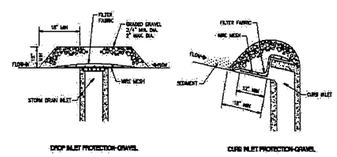
HARTS GAS STATION

CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

FUTURE DEVELOPMENT PLAN

Drawn by:	D.W.P.
Designed by:	D.W.P.
Checked by:	D.W.P.
Scale:	1"=30'
Date:	04/09/12
	C5

BMP: Inlet Protection - Gravel — IPG



Objectives
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

Description:
Placement of gravel filter over inlet to storm drain to filter storm water runoff.

Application:
Construct at inlets in paved or unpaved areas where upgradient area is to be disturbed by construction activities.

Installation/Application Criteria:
- Place wire mesh (with ½ inch openings) over the inlet grate extending one foot past the grate in all directions.
- Place filter fabric over the mesh. Filter fabric should be selected based on soil type.
- Place graded gravel, to a minimum depth of 12-inches, over the filter fabric and extending 18-inches past the grate in all directions.

Limitations:
- Recommended for maximum drainage area of one acre.
- Excess flows may bypass the inlet requiring down gradient controls.
- Ponding will occur at inlet.

Maintenance:
- Inspect inlet protection after every large storm event and at a minimum of once monthly.
- Remove sediment accumulated when it reaches 4-inches in depth.
- Replace filter fabric and clean or replace gravel if clogging is apparent.

Adapted from Salt Lake County BMP Fact Sheet

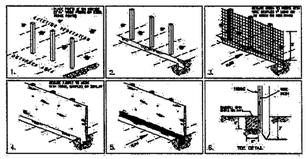
Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ■ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Silt Fence — SF



Objectives
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☒ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

Description:
A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

Application:
- Perimeter control: place barrier at downgradient limits of disturbance
- Sediment barrier: place barrier at toe of slope or soil stockpile
- Protection of existing waterways: place barrier near top of stream bank
- Inlet protection: place fence surrounding catchbasins

Installation/Application Criteria:
- Place posts 6 feet apart on center along contour (or use preassembled unit) and drive 2 feet minimum into ground. Excavate an anchor trench immediately upgradient of posts.
- Secure wire mesh (14 gage min. With 6 inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- Cut fabric to required width, unroll along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar, with trailing edge extending into anchor trench.
- Backfill trench over filter fabric to anchor.

Limitations:
- Recommended maximum drainage area of 0.5 acre per 100 feet of fence
- Recommended maximum upgradient slope length of 150 feet
- Recommended maximum uphill grade of 2:1 (50%)
- Recommended maximum flow rate of 0.5 cfs
- Ponding should not be allowed behind fence

Maintenance:
- Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- Look for runoff bypassing ends of barriers or undercutting barriers.
- Repair or replace damaged areas of the barrier and remove accumulated sediment.
- Reanchor fence as necessary to prevent shortcutting.
- Remove accumulated sediment when it reaches ½ the height of the fence.

Adapted from Salt Lake County BMP Fact Sheet

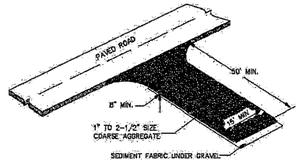
Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☒ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Stabilized Construction Entrance and Wash Area — SCEWA



Objectives
- ☒ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☐ Control Internal Erosion

Description:
A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface. The area can be used to spray off vehicles before they leave the site.

Applications:
At any point of ingress or egress at a construction site where adjacent traveled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

Installation/Application Criteria:
- Clear and grub area and grade to provide maximum slope of 2%.
- Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.
- Provide water to the area that can be used to spray off vehicles as needed to prevent the tracking of mud off of the construction site. This may not be needed during dry periods of work, but is needed when construction is proceeding under wet conditions.
- Provide berming as needed to prevent sediment laden wash water from entering storm water facilities or other water bodies, or leaving the site.

Limitations:
- Requires periodic top dressing with additional stones.
- Should be used in conjunction with street sweeping on adjacent public right-of-way.
- Must be situated such that waste water does not run off site.

Maintenance:
- Inspect daily for loss of gravel or sediment buildup.
- Inspect adjacent roadway for sediment deposit and clean by shoveling and sweeping.
- Repair entrance and replace gravel as required to maintain control in good working condition.
- Expand stabilized area as required to accommodate traffic and prevent erosion at driveways.

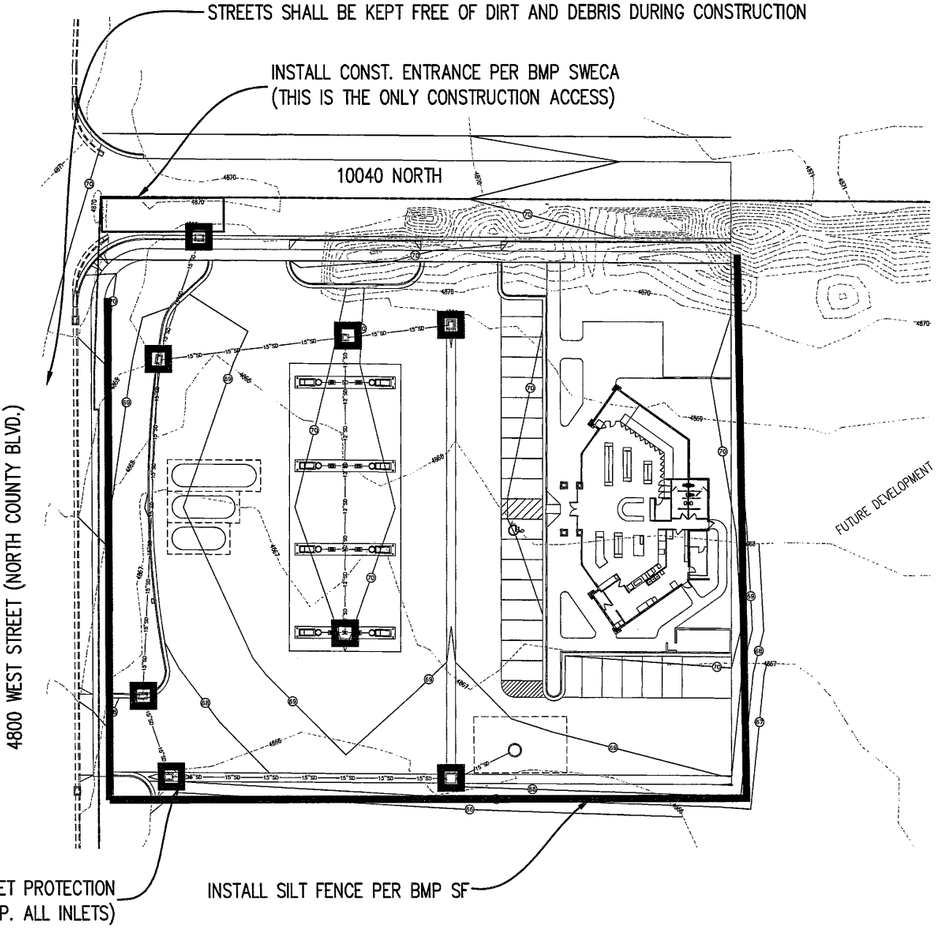
Adapted from Salt Lake County BMP Fact Sheet

Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

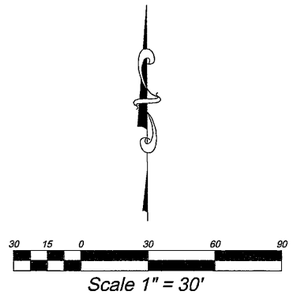
Implementation Requirements
- ☒ Capital Costs
- ☒ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low



STORM WATER POLLUTION PREVENTION PLAN NOTES:

1. CONTRACTOR IS TO READ AND UNDERSTAND ALL BMP PRACTICES PRIOR TO ANY CONSTRUCTION ON THIS SITE. CONTRACTOR IS TO FOLLOW ALL BMP PRACTICES CONTAINED IN THESE PLANS. SEE BMP DETAILS.
2. CONSTRUCT A SILT FENCE AS SHOWN ON PLAN. SEE BMP SF.
3. INSTALL A CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN PRIOR TO ANY GRADING ON THE SITE. SEE BMP SCEWA
4. CONSTRUCT STORM DRAIN FACILITIES AND INSTALL INLET PROTECTION ON ALL INLETS AFTER INSTALLATION. SEE BMP IPG.
5. CONTRACTOR TO WATER SITE AT LEAST WEEKLY OR MORE FREQUENTLY AS NEEDED TO CONTROL DUST POLLUTION.
6. CONTRACTOR IS TO REMOVE INLET PROTECTION FROM CATCH BASINS AND CLEAN-OUT ALL CATCH BASINS BEFORE LEAVING THE SITE. SEE BMP CBC.
7. CONTRACTOR WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF BMP'S DURING CONSTRUCTION.



REVISIONS			
Rev.	Date	Description	App'd
1	03/20/12	REVISED AS PER CITY COMMENTS	

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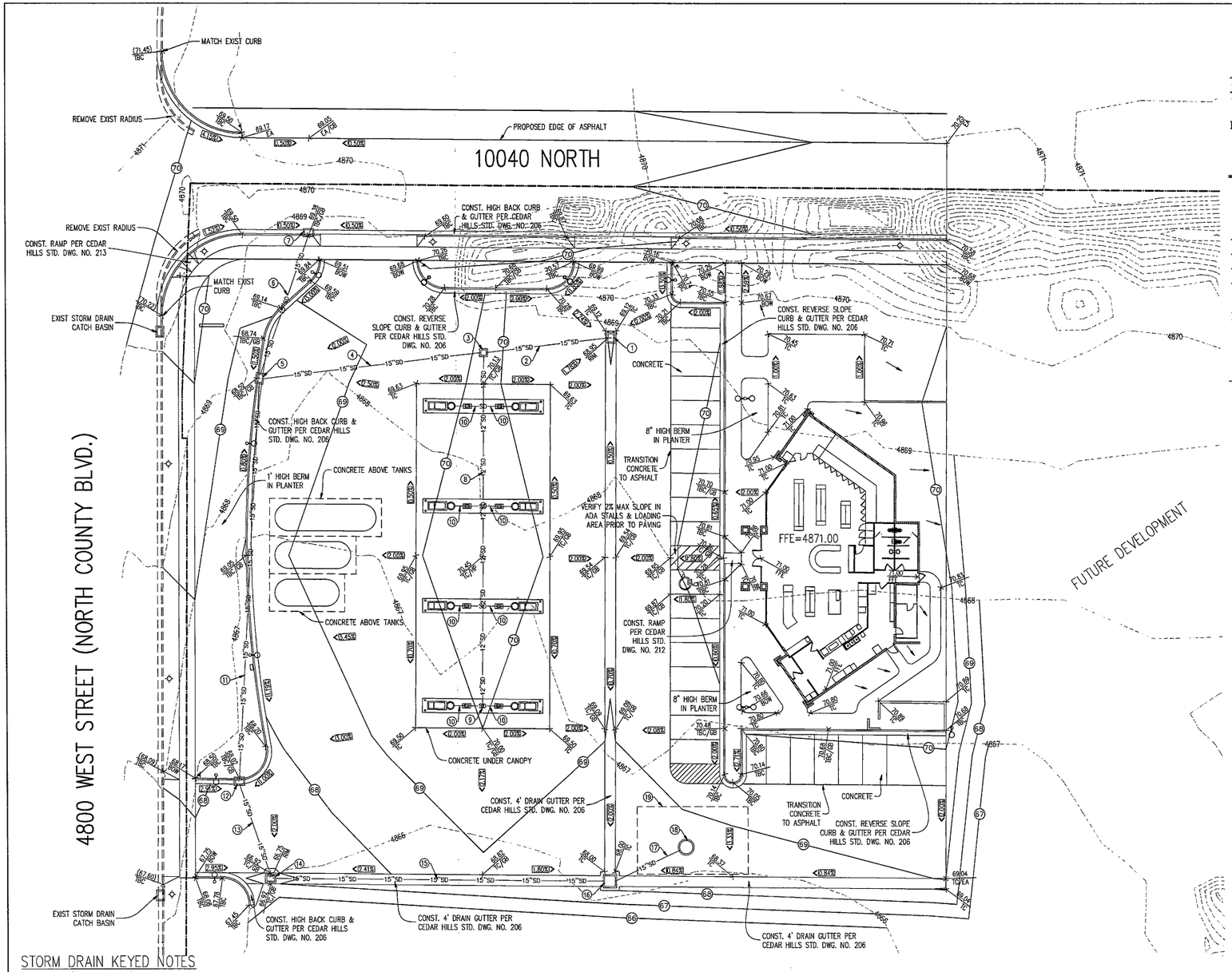
HARTS GAS STATION

CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

Drawn by:	Designed by:	Checked by:	Scale:	Date:
D.W.P.	D.W.P.	D.W.P.	1"=30'	03/08/12

STORM WATER POLLUTION PREVENTION PLAN

C4



STORM DRAIN KEYED NOTES

1. CONST. 2'X3' CATCH BASIN W/GRATE, GRATE=4868.95, IE OUT=4865.70, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
2. CONST. 45.9 L.F. 15" ADS @ S=0.70%
3. CONST. 2'X2' JUNCTION BOX WITH GRATE, GRATE=4870.11, 12" IE IN=4866.26, 15" IE THRU=4865.38, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
4. CONST. 82.2 L.F. 15" ADS @ S=0.70%
5. CONST. 2'X3' CATCH BASIN W/GRATE, GRATE=4868.02, IE THRU=4864.80, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
6. CONST. 54.7 L.F. 15" ADS @ S=1.00%
7. CONST. 2'X3' CATCH BASIN W/FACE INLET, GRATE=4868.88, IE OUT=4865.35, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
8. CONST. 130.3 L.F. 12" ADS @ S=1.00%
9. CONST. 12" NYLOPLAST DRAIN BASIN WITH SOLID LID, RIM=4870.06, 12" IE OUT=4867.56
10. CONST. 10.8 L.F. 3" PVC @ S=1% MIN., CONNECT TO ROOF DRAINS COMING FROM COLUMNS AND CONNECT TO NYLOPLAST DRAIN BASIN AT BOX #9 AND INTO 12" ADS WITH INSERTA-TEE FOR OTHER CONNECTIONS
11. CONST. 147.5 L.F. 15" ADS @ S=0.70%
12. CONST. 2'X3' CATCH BASIN W/FACE INLET, GRATE=4867.52, IE THRU=4863.77, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
13. CONST. 36.0 L.F. 15" ADS @ S=0.75%
14. CONST. 2'X3' CATCH BASIN W/GRATE, GRATE=4866.75, IE THRU=4863.50, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
15. CONST. 122.9 L.F. 15" ADS @ S=0.70%
16. CONST. 4'X4' INLET BOX W/SNOUT TYPE 18F OVER OUTLET, GRATE=4867.83, IE THRU=4862.64, BOTTOM OF BOX=4859.64, INSTALL FLEXSTORM INLET WITH PC+ BAG IN BOX.
17. CONST. 27.0 L.F. 15" ADS @ S=1.00%
18. CONST. 5' DIAMETER, 10' DEEP SUMP PER CEDAR HILLS STD. DWG. NO. 507B, RIM=4868.58, TOP OF GRAVEL=4865.58, 15" IE IN=4862.37, BOTTOM OF SIDES OF MANHOLE=4858.58, BOTTOM OF GRAVEL=4856.58
19. CONST. 25' X 42' X 9' DEEP GRAVEL AREA AROUND SUMP

BENCH MARK

WEST 1/4 CORNER, SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST,
SALT LAKE BASE & MERIDIAN
ELEVATION = 4866.28

Cedar Hills Harts
Storm Water Calculations - 100 year
9-Apr-12

The storm drain calculations were performed using the rational method.
These calculations include the Harts Gas Station site as well as 10040 North roadway.

Hydrologic Calculations

CA CALCULATION

	C	Area (sf)	C* A
Impervious area	0.9	56324	50692
Pervious area	0.2	11973	2395
Total CA		68297	53086

The measured percolation rate was 1.1 min/in.
The infiltration area will be the bottom area of the gravel
The infiltration area = (25' x 42') = 1,050 s.f.
The infiltration rate = (1,050 s.f.)(1 inch/1.1 min.)(1 ft/12 inch)(1 min./60 sec.)(1 sump) = 1.33 cfs

Retention calculations

Lapsed Time (min.)	Rainfall intensity (in/hr)	Total Rainfall (in)	Rainfall Volume (cu.ft.)	Release Volume (cu.ft.)	Required Storage (cu.ft.)
A	B	C	D	E	F
10	5.02	0.83	3672	795	2876
15	4.14	1.04	4601	1193	3408
30	2.79	1.40	6193	2386	3807
60	1.73	1.73	7653	4773	2881
120	0.95	1.90	8405	9545	-1140
180	0.65	1.95	8627	14318	-5692
360	0.36	2.16	9556	28636	-19081
720	0.22	2.64	11679	57273	-45594
1440	0.12	2.88	12741	114545	-101805

Required retention Storage = 3,807 cf

Notes:
A, B, & C are based upon Cedar Hills Precip. Table (100-year)
D = C / (12 inches/foot) x total acreage of site x 43,560 s f/acre x run-off coefficient, where Q=CIA and V=CiA
E = infiltration rate x A x 60 sec.
F = D - E to determine storage volume

Storm Drain Discussion

1. 5' diameter, 10' deep sump with 25' x 42' x 9' deep gravel area around sump (gravel=40% porosity)
2. Sump Elevations: Rim of MH=4868.58, Top of Gravel=4865.58, Bottom of MH sides=4858.58, Bottom of Gravel=4856.58
3. Storage volume of sump manhole with water surface at top of gravel (elev = 4865.58) = 138 c.f.
4. Storage volume of gravel around and below sump with water surface at top of gravel (elev = 4865.58) = 3,701 c.f.
5. Total storage volume of 3,839 c.f. exceeds required storage 3,807 c.f.

GRADING LEGEND

FFE	FINISHED FLOOR ELEV.
BOW	BACK OF WALK
GB	GRADE BREAK
TC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
TA	TOP OF ASPHALT
EA	EDGE OF ASPHALT
RIM	RIM ELEVATION
FL	FLOWLINE
EG	EXIST GROUND
FG	FINISHED GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
IE	INVERT ELEVATION
	DIRECTION OF DRAINAGE
(00.00)	EXISTING ELEVATION
	PROPOSED ELEVATION
4808	EXISTING CONTOUR
	PROPOSED CONTOUR

20 10 0 20 40 60
Scale 1" = 20'

REVISIONS

Rev.	Date	Description	App'd
1	03/20/12	REVISED AS PER CITY COMMENTS	
2	04/09/12	REVISED AS PER CITY COMMENTS	
3	04/27/12	ADDED FLEXSTORM PC+ BAGS FOR OIL CAPTURE IN INLETS	

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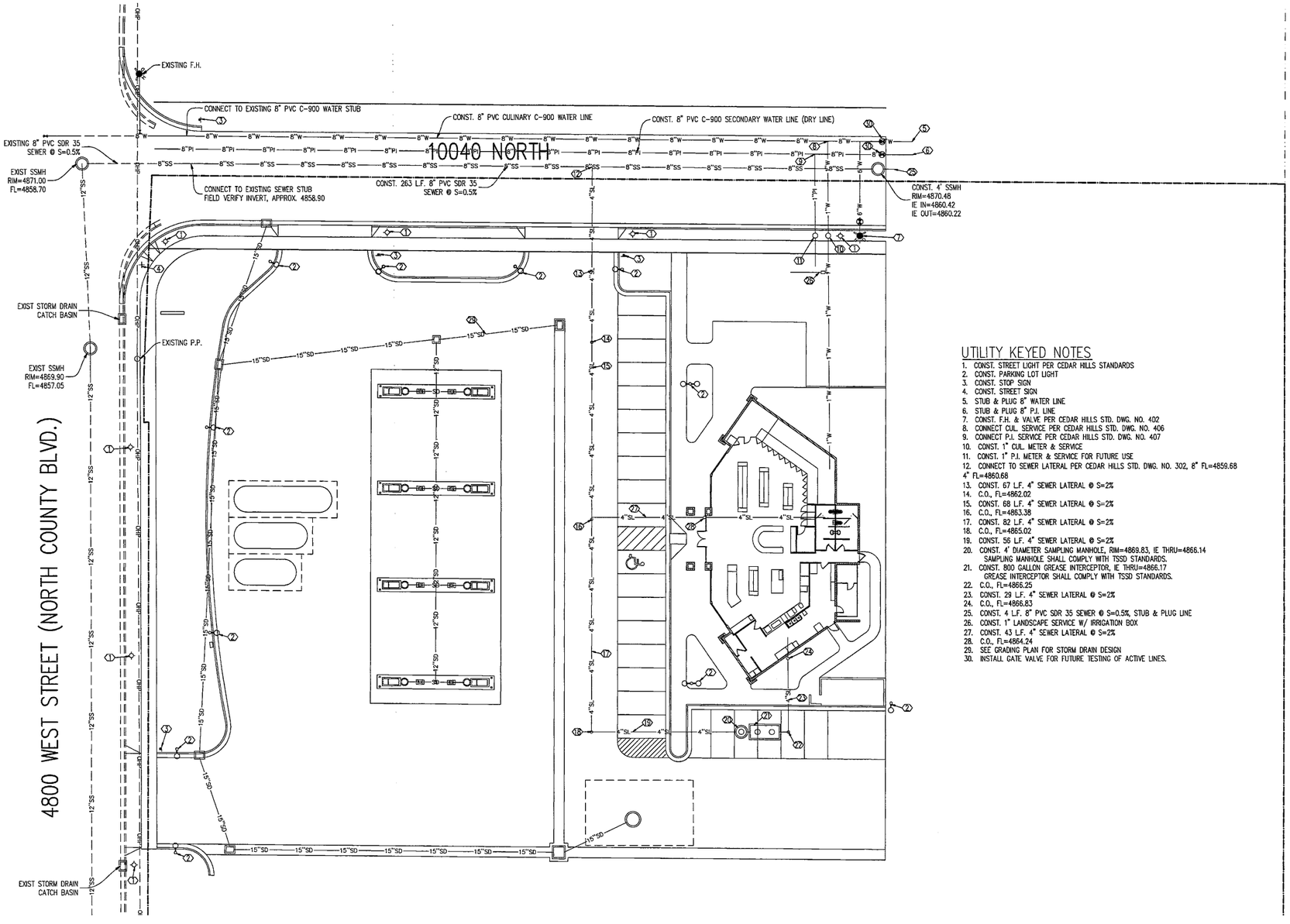
HARTS GAS STATION
CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

GRADING PLAN

Scale: 1"=20'
Date: 03/08/12

C3



UTILITY LEGEND

- POWER POLE
- 8"W — CULINARY WATER PIPE
- 8"SS — SEWER PIPE PVC SDR-35
- 15"SD — STORM DRAIN PIPE RCP
- EDGE OF ASPHALT
- X — X — EXIST FENCE
- NEW FENCE
- OVERHEAD POWER LINE
- FIRE HYDRANT
- INSTALL GATE VALVE
- INSTALL STREET LIGHT
- INSTALL STREET SIGN
- UTILITY KEYED NOTE

UTILITY KEYED NOTES

1. CONST. STREET LIGHT PER CEDAR HILLS STANDARDS
2. CONST. PARKING LOT LIGHT
3. CONST. STOP SIGN
4. CONST. STREET SIGN
5. STUB & PLUG 8" WATER LINE
6. STUB & PLUG 8" P.I. LINE
7. CONST. F.H. & VALVE PER CEDAR HILLS STD. DWG. NO. 402
8. CONNECT CUL. SERVICE PER CEDAR HILLS STD. DWG. NO. 406
9. CONNECT P.I. SERVICE PER CEDAR HILLS STD. DWG. NO. 407
10. CONST. 1" CUL. METER & SERVICE
11. CONST. 1" P.I. METER & SERVICE FOR FUTURE USE
12. CONNECT TO SEWER LATERAL PER CEDAR HILLS STD. DWG. NO. 302, 8" FL=4859.68 4" FL=4860.68
13. CONST. 67 L.F. 4" SEWER LATERAL @ S=2%
14. C.O., FL=4862.02
15. CONST. 68 L.F. 4" SEWER LATERAL @ S=2%
16. C.O., FL=4863.38
17. CONST. 82 L.F. 4" SEWER LATERAL @ S=2%
18. C.O., FL=4865.02
19. CONST. 56 L.F. 4" SEWER LATERAL @ S=2%
20. CONST. 4' DIAMETER SAMPLING MANHOLE, RIM=4869.83, IE THRU=4866.14 SAMPLING MANHOLE SHALL COMPLY WITH TSSD STANDARDS.
21. CONST. 800 GALLON GREASE INTERCEPTOR, IE THRU=4866.17 GREASE INTERCEPTOR SHALL COMPLY WITH TSSD STANDARDS.
22. C.O., FL=4865.25
23. CONST. 29 L.F. 4" SEWER LATERAL @ S=2%
24. C.O., FL=4866.83
25. CONST. 4 L.F. 8" PVC SDR 35 SEWER @ S=0.5%, STUB & PLUG LINE
26. CONST. 1" LANDSCAPE SERVICE W/ IRRIGATION BOX
27. CONST. 43 L.F. 4" SEWER LATERAL @ S=2%
28. C.O., FL=4864.24
29. SEE GRADING PLAN FOR STORM DRAIN DESIGN
30. INSTALL GATE VALVE FOR FUTURE TESTING OF ACTIVE LINES.

NOTES TO CONTRACTOR

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, & SEWER ELEVATIONS OR INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE AND ALL UNDERGROUND UTILITIES, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS.

GENERAL NOTE

1. ALL WORK TO BE DONE IN ACCORDANCE WITH CEDAR HILLS CITY STANDARDS & SPECIFICATIONS.

20 10 0 20 40 60

Scale 1" = 20'

BENCH MARK

WEST 1/4 CORNER, SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST,
SALT LAKE BASE & MERIDIAN
ELEVATION = 4866.28

REVISIONS			
Rev.	Date	Description	App'd
1	03/20/12	REVISED AS PER CITY COMMENTS	

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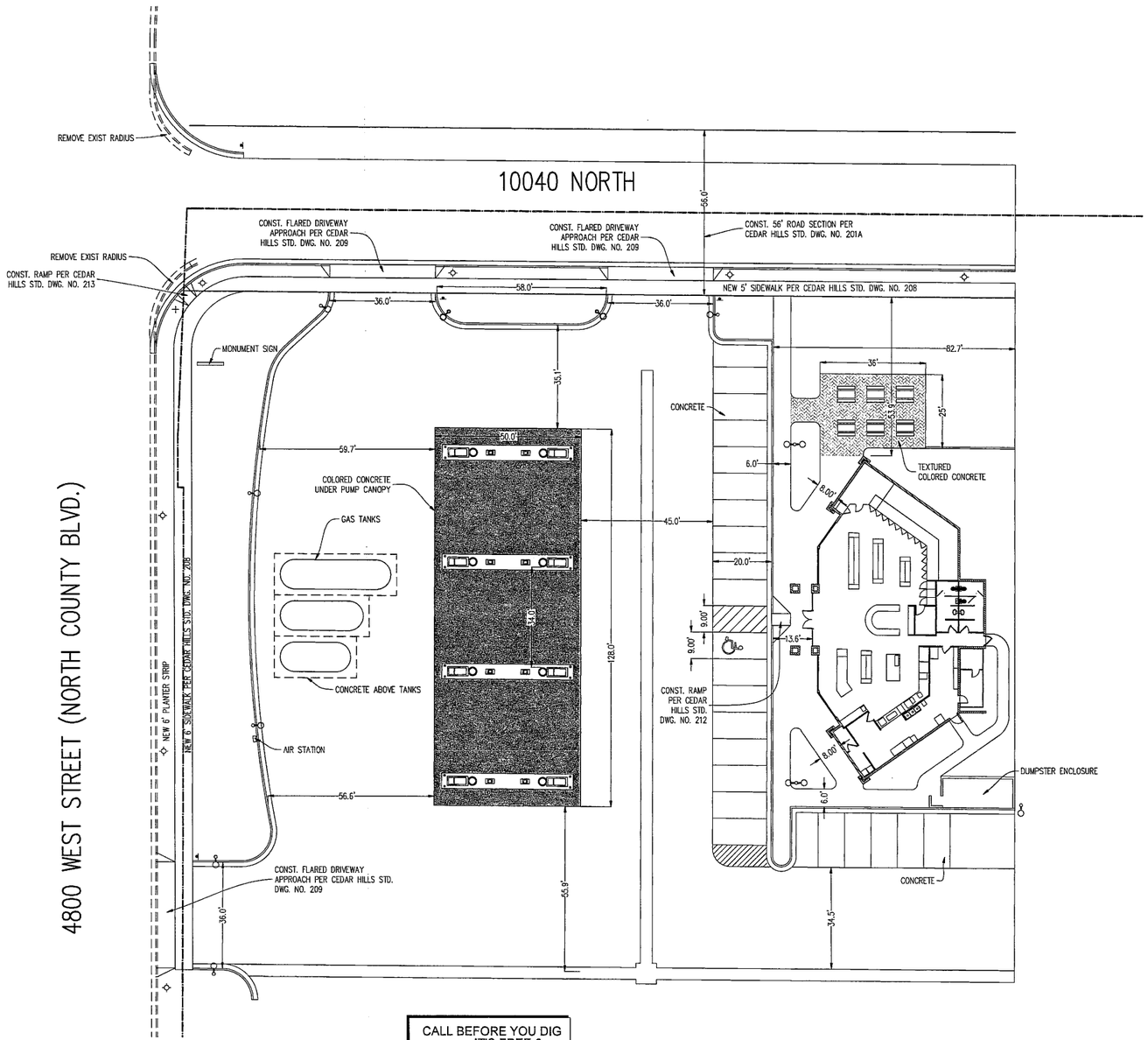
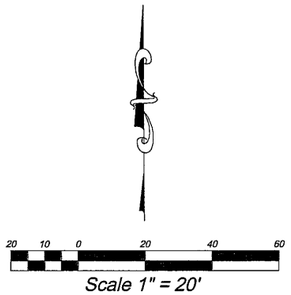
HARTS GAS STATION

CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

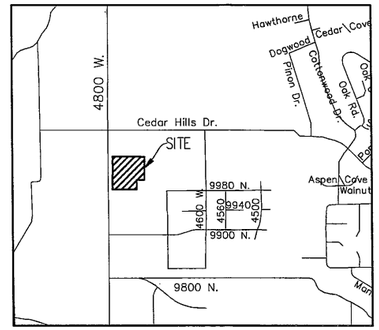
Drawn by: D.W.P.	UTILITY PLAN	Scale: 1"=20'
Designed by: D.W.P.		Date: 03/08/12
Checked by: D.W.P.		C2

HARTS GAS STATION





VICINITY MAP



SITE LIGHTING NOTES:

1. THE LIGHTS THAT WILL BE INSTALLED IN 4800 WEST AND 10040 NORTH WILL BE ACCORDING TO THE CITY STANDARD LIGHT DETAILS.
2. THE LIGHTING UNDER THE PUMP CANOPY WILL DIRECT LIGHT DOWNWARD AND KEEP THE LIGHT ON THE SITE. THE PARTICULAR LIGHT FIXTURE PROPOSED IS AN 320 WATT LSI ENCORE FLAT LENS FIXTURE
3. SITE LIGHTING FOR THE ENTRANCES, PARKING, AND BUILDING WILL BE INSTALLED TO KEEP LIGHT DIRECTED INTO THE PROPERTY AND TO AVOID LIGHT POLLUTION OF SURROUNDING PROPERTY.

PAVEMENT DESIGN:

ASPHALT:
3.5" ASPHALT OVER
6" AGGREGATE BASE COURSE OVER
6" SUBBASE (STRUCTURAL SITE GRADING FILL) OVER
SUITABLE NATURAL SOILS AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO SUITABLE NATURAL SOILS

CONCRETE:
5.0" PORTLAND CEMENT CONCRETE (NON-REINFORCED) OVER
6" AGGREGATE BASE COURSE OVER
SUITABLE NATURAL SOILS AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO SUITABLE NATURAL SOILS

(*IMPORTANT*: REFER TO SOILS REPORT FOR ENTIRE SUBBASE PREPARATION INSTRUCTIONS)

SITE SOUND LEVEL DISCUSSION:

1. THE VEHICLE THAT WILL CREATE THE GREATS SOUND LEVEL ON THIS SITE WILL BE THE DIESEL TRUCKS THAT DELIVER FUEL.
2. THE SOUND LEVEL OF THE DIESEL TRUCKS ARE APPROXIMATELY 90 DB.
3. THE SOUND LEVEL OF BUSY TRAFFIC SIMILAR TO WHAT EXISTS DURING PEAK TRAFFIC PERIODS ON 4800 WEST IS APPROXIMATELY 80 DB.
4. THE CLOSEST HOMES TO THE PROPOSED GAS STATION ARE APPROXIMATELY 500 FEET AWAY.
5. USING A FORMULA TO CALCULATE THE DAMPING OF SOUND LEVELS WITH DISTANCE FROM THE GENERATED SOUND, THE SOUND LEVEL FOR THE DIESEL TRUCK WILL DROP APPROXIMATELY 10 DB. THIS WILL RESULT IN A SOUND LEVEL OF APPROXIMATELY 80 DB AT THE CLOSEST HOME.
6. BASED ON THIS EVALUATION, THE GAS STATION WILL NOT INCREASE THE SOUND LEVEL THAT CURRENTLY EXISTS ON 4800 WEST STREET. THE GAS STATION IS PROPERLY SITUATED IN THE COMMERCIAL ZONE TO PROVIDE AN ADEQUATE BUFFER TO MINIMIZE THE SOUND LEVEL TO THE CLOSEST HOMES.

SHEET INDEX

LAND TABULATIONS

ITEM	AREA	%
TOTAL AREA (S.F.):	64,341	100%
PUBLIC ROADWAY AREA (S.F.):	3,956	6.2%
LANDSCAPED AREA (S.F.)	17,641	27.4%

BENCH MARK

WEST 1/4 CORNER, SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST,
SALT LAKE BASE & MERIDIAN
ELEVATION = 4866.28

REVISIONS

Rev.	Date	Description	App'd
1	03/20/12	REVISED AS PER CITY COMMENTS	
2	04/09/12	REVISED AS PER CITY COMMENTS	
3	04/19/12	ADDED FINAL BUILDING FOOTPRINT	

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HARTS GAS STATION
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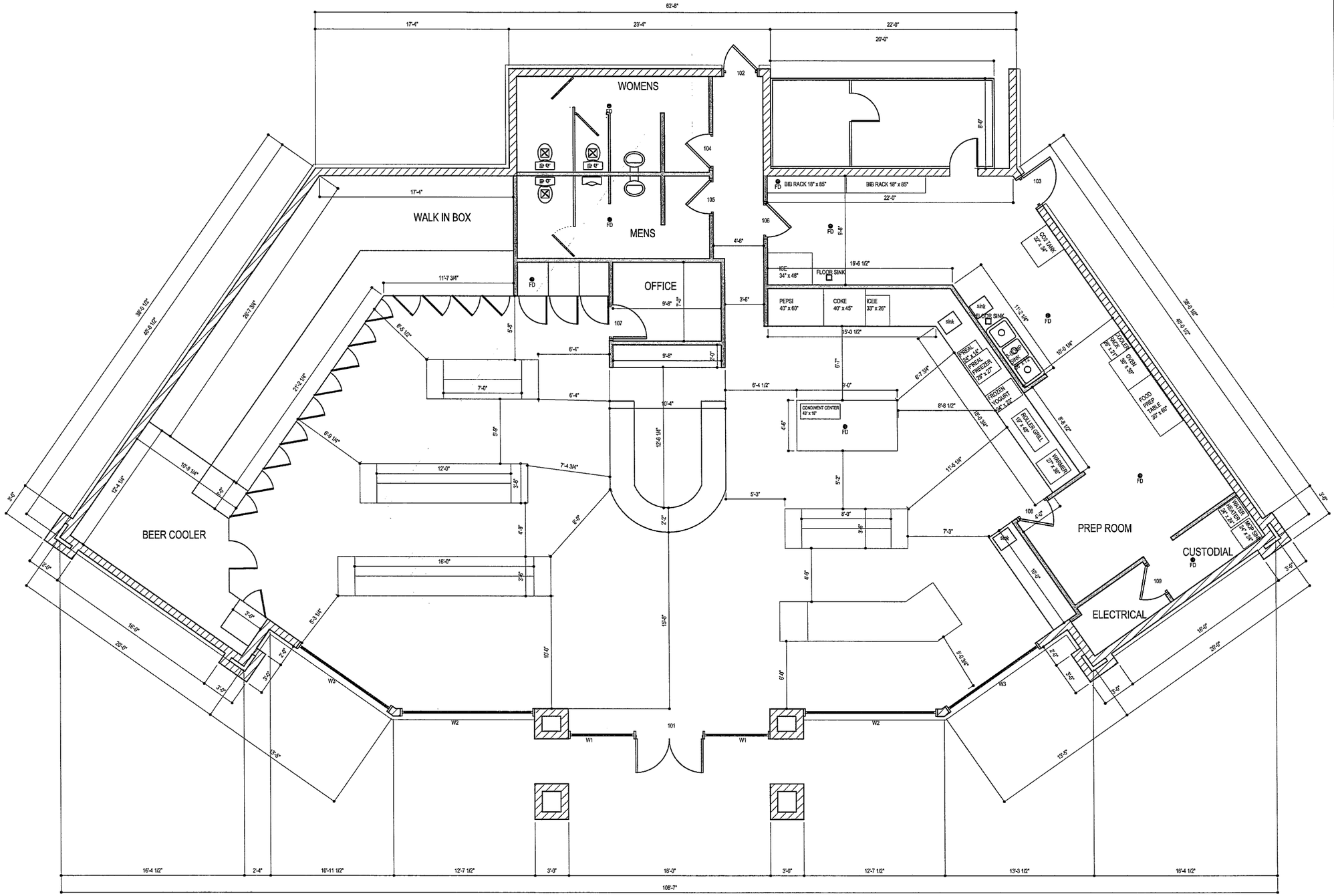
Drawn by:	Designed by:	Checked by:	Scale:	Date:
D.W.P.	D.W.P.	D.W.P.	1"=20'	03/08/12

SITE PLAN

C1



MAIN FLOOR PLAN

SCALE: 1/4" = 1'

4,200 S.F.

PROJECT NOTES

- AN APPROVED ADDRESS SHALL BE PLACED ON THE BUILDING IN SUCH A POSITION AS TO BE PLAINLY VISIBLE FROM THE STREET FRONTING THE PROPERTY.

- MINIMUM RATED 2A 10BC EXTINGUISHERS SHALL BE PROVIDED SO THAT THE TRAVEL DISTANCE FROM ANY POINT INSIDE THE BUILDING TO AN EXTINGUISHER DOES NOT EXCEED 75'.

- PROVIDE SOUND BATT INSULATION TO ALL WALLS AT ,RESTROOM AND MECHANICAL ROOMS.

- ALL EXTERIOR WALLS TO CMU MASONRY WALLS

- ALL INTERIOR WALLS TO BE 2x4 UNLESS NOTED OTHERWISE

- SEE DETAIL SHEET D4 AND D5 FOR ADA DETAILS

- PROVIDE A LANDING MIN. 36" x 42" ON EACH SIDE OF MAN DOOR WITH A MIN. 1/2" ELEVATION DIFFERENCE

- ALL GLAZING IN OR ADJACENT TO DOORS WILL BE TEMPERED

605 Urinals
605.1 General. Accessible urinals shall comply Section 605.
605.2 Height. Urinals shall be of the stall shall be of the wall-hung type with the 17 inches (430 mm) maximum above the ground.
605.3 Clear Floor or Ground Space. A clear or ground space complying with Section positioned for forward approach shall be provided.
605.4 Flush Controls. Flush controls shall operated or automatic. Hand-operated flush controls shall comply with Section 309.

PROJECT TITLE

Harts Gas Station

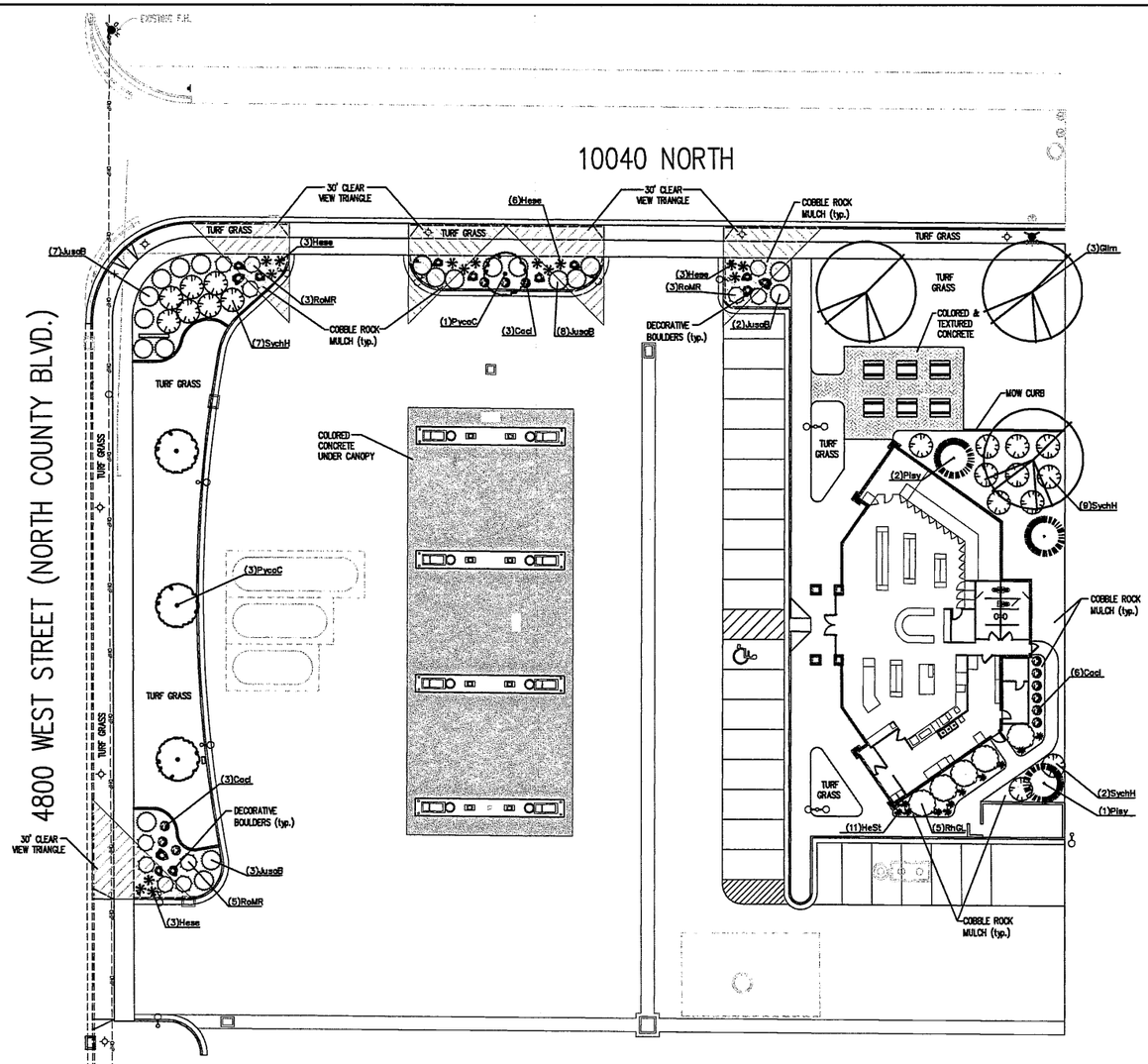
DAIN & ASSOCIATES
ARCHITECTURE DESIGN PROJECT MANAGEMENT
JAMES A. DAIN ARCHITECT
PHONE (503) 225-1442

MAIN FLOOR PLAN

DATE: APRIL 2012

REVISIONS:

A2.1



PLANTING SCHEDULE

Broadleaf Deciduous

Symbol	Code Name	Scientific Name	Common Name	Planting Size	Quantity
	Glim	Gleditsia triacanthos inermis 'Imperial'	Imperial Honey Locust	2-1/2"-Cal	3
	PycaC	Pyrus calleryana 'Chanticleer'	Chanticleer Pear	2-1/2"-Cal	4

Conifer Evergreen

Symbol	Code Name	Scientific Name	Common Name	Planting Size	Quantity
	Pisy	Pinus sylvestris	Scotch Pine	5'-6' Ht.	3

Grass

Symbol	Code Name	Scientific Name	Common Name	Planting Size	Quantity
	Hese	Helictrotrichon sempervirens	Blue Oat Grass	1-Gal	15

Perennial

Symbol	Code Name	Scientific Name	Common Name	Planting Size	Quantity
	HeSt	Hemerocallis 'Stella d'Oro'	Stella d'Oro Daylily	1-Gal	11

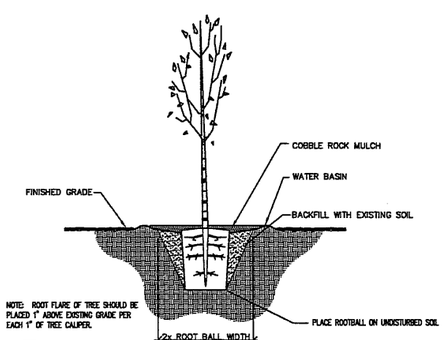
Shrub

Symbol	Code Name	Scientific Name	Common Name	Planting Size	Quantity
	Cacl	Caryopteris clandonensis 'Longwood Blue'	Bluemist Spirea	5-Gal	12
	JusaB	Juniperus sabina 'Broadmoor'	Broadmoor Juniper	5-Gal	20
	RhGL	Rhus aromatica 'Grow Low'	Grow Low Sumac	5-Gal	5
	RoMR	Rosa 'Meidiland Red'	Meidiland Red Rose	5-Gal	11
	SychH	Symphoricarpos x chenaultii 'Hancock'	Hancock Coralberry	5-Gal	18

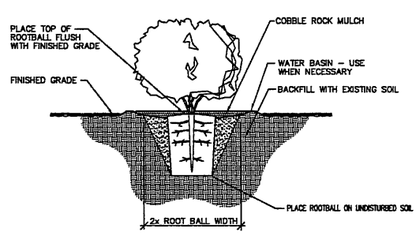
DECORATIVE LANDSCAPE BOULDERS

NOTES:
1) Sandy-loam topsoil to be implemented at the following depths: 12" in all planter beds, 4" in turf grass areas.
2) 'Soil Prep' soil conditioner (from Miller Companies in Hyrum, Utah) to be mixed into the backfill of all plant materials at a rate of 25% 'Soil Prep' to 75% topsoil.
3) Turf grass to be a Kentucky Bluegrass blend and be implemented as sod.
4) All planter beds to have DeWitt Pro-5 Landscape Fabric implemented prior to mulching.
5) All planter beds to have a 3" depth of 1-1/2" 'Southtown Cobble' rock mulch from Nephi Sandstone in Nephi, Utah.
6) Decorative Landscape Boulders to be 2.5' to 4' in size and tan in color (similar to cobble rock mulch). Recess each boulder 25% into the ground placing Landscape Fabric beneath, and overlap with fabric on top of planter beds.
7) Mow Curb to be 6"x6" concrete and be implemented between all turf grass and planter bed areas.
8) All plant materials and turf grass to be watered with a fully automatic sprinkler system.

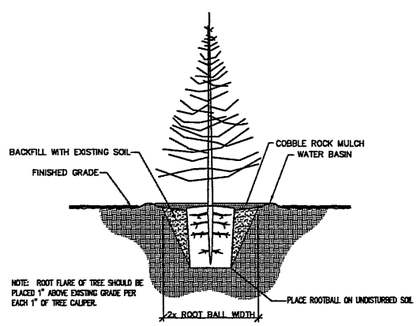
*6,400 sq. ft. of colored concrete to be used under the pump canopy and 1,050 sq. ft. of stamped and colored concrete to be used in a patio north of the building as a landscape upgrade to get the landscaped area from the current 27.4% to in excess of the required 30%.



A DECIDUOUS TREE PLANTING DETAIL
SCALE: NTS



B SHRUB PLANTING DETAIL
SCALE: NTS



C EVERGREEN PLANTING DETAIL
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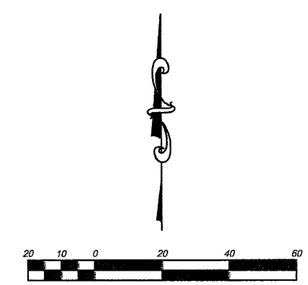


STATE OF UTAH
DARREN G. WILSON
NO. 356187
LICENSED LANDSCAPE ARCHITECT

BRÄTT, INC.
GENERAL CONTRACTORS
LANDSCAPE ARCHITECTS
LANDSCAPE CONTRACTORS
754 W. 700 So. PLEASANT GROVE, UTAH 84062
(801) 785-8001 562-2677 FAX 785-8012

Developer: Dave Jardine
P.O. Box 418
American Fork, UT 84003
Phone: 801-756-9681

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201, American Fork, UT 84003
P: (801) 756-4504; F: (801) 756-4511

HARTS GAS STATION

CEDAR HILLS UTAH

Drawn by:	Scale:
D.W.	1"=20'
Designed by: D.W.	Date: 04/26/12
Checked by: D.W.	1 OF 1

LANDSCAPE PLAN

1 Front
1/4" = 1'-0"

2 Back
1/4" = 1'-0"

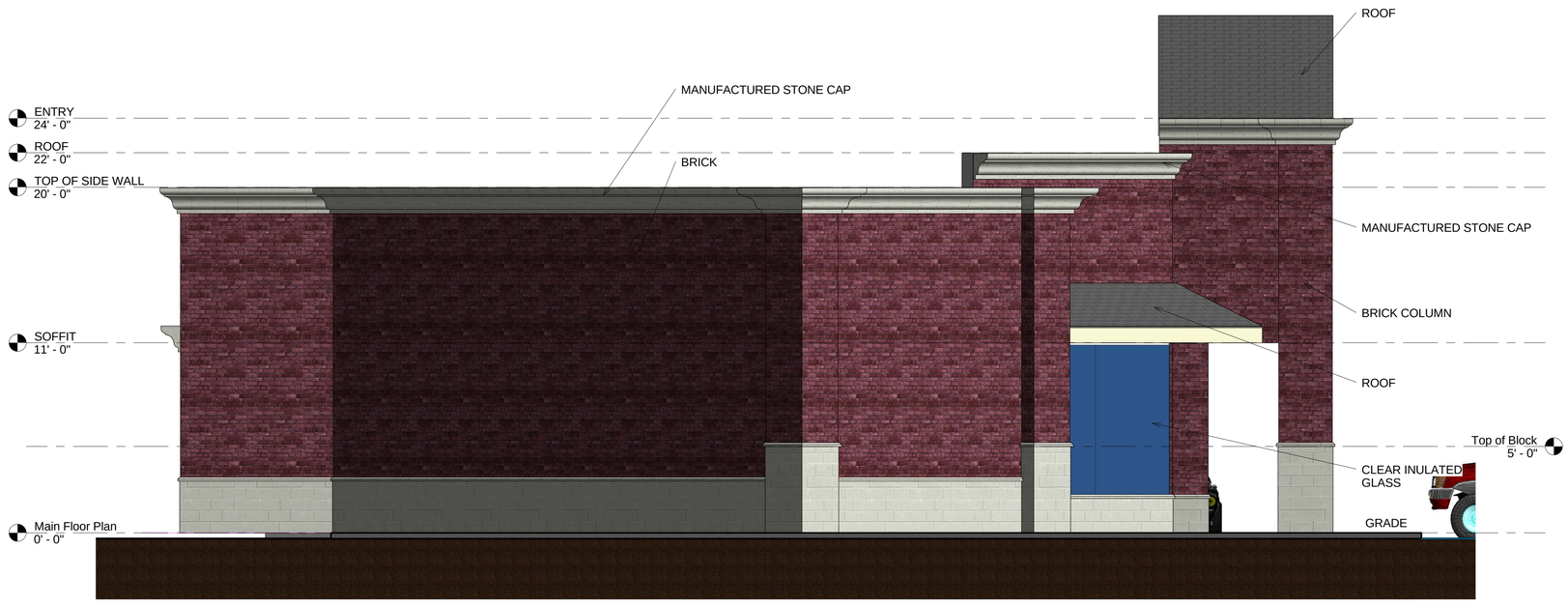
DAIN & ASSOCIATES
DESIGN & ARCHITECTURE
PHONE: 801-228-8805

DATE: Issue Date

REVISIONS:

A102

1 Right Side
1/4" = 1'-0"



2 Left Side
1/4" = 1'-0"

DAIN & ASSOCIATES
DESIGN & ARCHITECTURE
PHONE: 801-228-8805

DATE: Issue Date

REVISIONS:

A103

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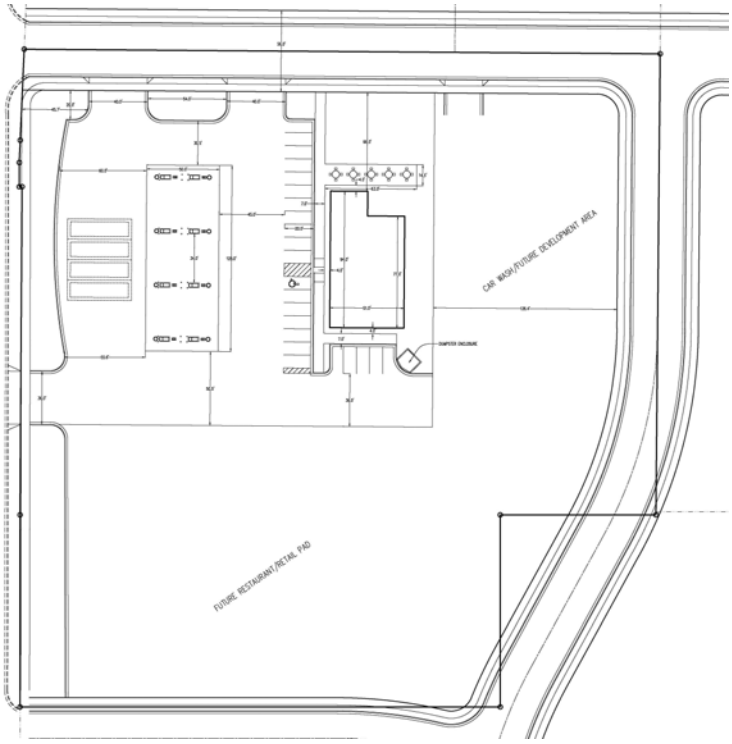
Harts Gas Station

Traffic Impact Study



Cedar Hills, Utah

February 2012

UT12-333

3315 West Mayflower Way, Ste. 4 Lehi, Utah 84043 p. 801/ 766.4343
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EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Harts Gas Station in Cedar Hills, Utah. The project site is located east of North County Blvd (4800 West) approximately half way between 1800 North and Cedar Hills Blvd.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site. Future (2030) conditions are also analyzed.

TRAFFIC ANALYSIS

The following is an outline of the traffic analysis performed by Hales Engineering for the traffic conditions of this project.

Existing (2012) Background Conditions Analysis

Hales Engineering performed morning (7:00 to 9:00 a.m.) and afternoon (4:00 to 6:00 p.m.) peak period traffic counts at the following intersections:

- Cedar Hills Drive / North County Blvd. (4800 West)
- 1800 North / North County Blvd.

The counts were performed on Tuesday, February 14, 2012. Detailed count data are included in Appendix A. Traffic levels are 13 percent higher during the a.m. peak hour than during the p.m. peak hour, therefore, the a.m. peak hour was determined to be the worst-case scenario and was the time period chosen for analysis of this TIS.

As shown in Table ES-1, all study intersections have acceptable levels of service during the a.m. peak period. No significant queuing issues exist.

Project Conditions Analysis

The proposed land use for the development has been identified as follows:

- Gasoline/Service Station with Convenience Market:
  - 16 vehicle fueling positions
  - ~4,400 square feet convenience market

The projected gross trip generation for the development is as follows:

- Daily Trips: 2,604
- a.m. peak Hour Trips: 162

- p.m. Peak Hour Trips: 214

Existing (2012) Plus Project Conditions Analysis

As shown in Table ES-1, the LOS does not change at any of the study intersections after completion of the proposed development. No significant queuing issues are anticipated.

Future (2030) Background Conditions Analysis

As shown in Table ES-1, all study intersections are anticipated to have acceptable levels of service in year 2030. No significant queuing issues are anticipated.

Future (2030) Plus Project Conditions Analysis

As shown in Table ES-1, the LOS is not anticipated to change significantly at any of the study intersections after completion of the proposed development. No significant queuing issues are anticipated.

TABLE ES-1
P.M. Peak Hour
Cedar Hills - Harts Gas Station TIS

Intersection	Existing 2012 Background	Existing 2012 Plus Project	Future 2030 Background	Future 2030 Plus Project
Description	LOS (Sec/Veh[1])	LOS (Sec/Veh[1])	LOS (Sec/Veh[1])	LOS (Sec/Veh[1])
Cedar Hills Drive / North County Blvd (4800 West)	**B (14.9)**	**B (15.0)**	**B (19.3)**	**C (20.7)**
North Access / North County Blvd.[2]	**-**	**WB / A (4.1)**	**-**	**WB / A (9.2)**
Harts Access / North County Blvd.[2]	**-**	**WB / A (4.6)**	**-**	**WB / B (11.0)**
1800 North / North County Blvd.	**WB / A (5.1)**	**WB / A (5.2)**	**WB / A (8.9)**	**WB / A (9.7)**

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for signalized and all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, February 2012

RECOMMENDATIONS

The following mitigation measures are recommended:

Existing (2012) Background Conditions Analysis

No mitigation measures are recommended.

Existing (2012) Plus Project Conditions Analysis

No mitigation measures are recommended.

The plus project conditions scenario assumed that the two-way left-turn (TWLTL) median would be available for left-turn movements into the main Harts access. No separate turn pockets were assumed for the right-turn movements. The existing shoulder is large enough for vehicles turning right to exit the main flow of traffic before turning into the development.

Existing (2012) Background Conditions Analysis

The City should continue to monitor the Cedar Hills Drive / North County Blvd. intersection and may need to consider extending the left-turn pocket for the westbound to southbound left-turn movement in order to prevent storage overflow from occurring.

Existing (2012) Plus Project Conditions Analysis

No mitigation measures are recommended.

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- Due to new construction on North County Blvd., there is sufficient capacity for the current travel demand. The current average daily traffic (ADT) on North County Blvd. is approximately 10,000 vehicles per day (vpd), which is considerably less than its capacity (approximately 32,000 vpd).
- Construction activities within the corridor in American Fork appear to be affecting traffic levels. Hales Engineering estimates approximately 2,500 vehicles per day are currently diverting to alternate paths. When construction is completed, capacity will still exceed demand for the foreseeable future.
- Because of the adjacent high school, the a.m. period was determined to be the critical peak hour and was therefore analyzed in this TIS as the worst-case condition.

- The proposed gas station adds approximately 160 peak hour trips in the morning and 210 peak hour trips in the afternoon. A substantial number of the trips (at least 40 percent) will be pass-by trips (not new trips).
- All project accesses will operate at acceptable levels of service.
- Future (2030) conditions were analyzed based on data from the Mountainland Association of Government's (MAG) travel demand model. Good levels of service are expected to be maintained in the future both with and without the added project traffic.
- No mitigation measures are required for this project other than providing cross access to future commercial development to the north, east and south.
- The City should continue to monitor the Cedar Hills Drive / North County Blvd. intersection and may need to consider extending the left-turn pocket for the westbound to southbound left-turn movement in order to prevent storage overflow from occurring.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Harts Gas Station in Cedar Hills, Utah. The project site is located east of North County Blvd (4800 West) approximately half way between 1800 North and Cedar Hills Blvd. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site. Future (2030) conditions are also analyzed.

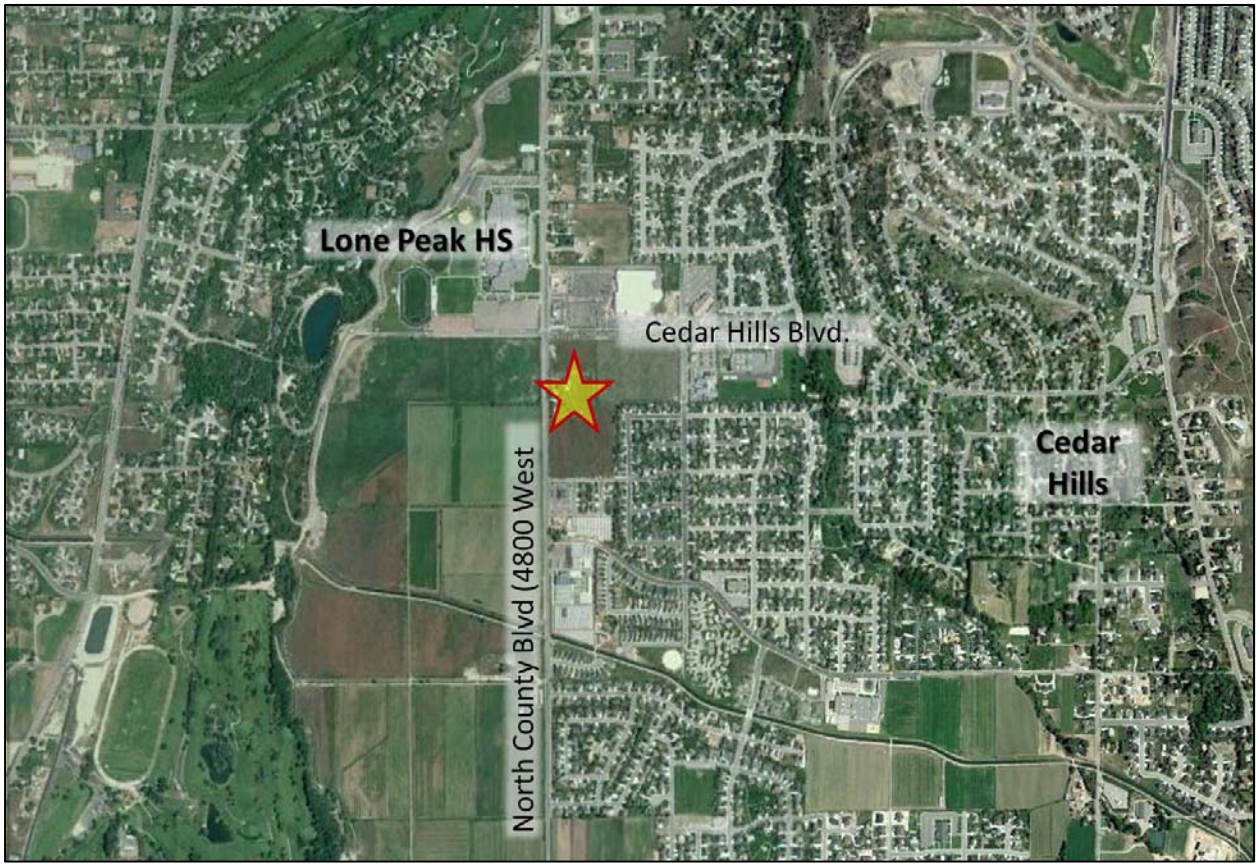


Figure 1 Vicinity map showing the project location in Cedar Hills, Utah.

B. Scope

The study area was defined based on conversations with the development Team and Cedar Hills staff members. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Cedar Hills Drive / North County Blvd. (4800 West)
- 1800 North / North County Blvd.
- Project Access / North County Blvd.

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections.

The Highway Capacity Manual 2000 (HCM 2010) methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections LOS is reported based on the worst approach. Hales Engineering has also calculated overall delay values for unsignalized intersections, which provides additional information and represents the overall intersection conditions rather than just the worst approach.

D. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. However, if LOS E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1 Level of Service Descriptions

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
Signalized Intersections		**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively high levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably high levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
Unsignalized Intersections		**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on Highway Capacity Manual, 2010 Methodology (Transportation Research Board, 2010)

II. EXISTING (2012) BACKGROUND CONDITIONS

A. Purpose

The purpose of the existing (2012) background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified and potential mitigation measures recommended. This analysis will provide a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadway that will provide access to the project site is described below:

North County Parkway (4800 West) – is a newly-widened five-lane arterial with two travel lanes in each direction of travel, a center two-way left-turn lane (TWLTL) median, and wide paved shoulders on both sides of the road. The posted speed limit near the proposed site is 40 mph.

The intersection of Cedar Hills Drive and North County Parkway is signalized with flashing yellow arrows (FYA) for all four left-turn movements.

C. Traffic Volumes

Hales Engineering performed morning (7:00 to 9:00 a.m.) and afternoon (4:00 to 6:00 p.m.) peak period traffic counts at the following intersections:

- Cedar Hills Drive / North County Blvd. (4800 West)
- 1800 North / North County Blvd.

The counts were performed on Tuesday, February 14, 2012. The morning peak hour was determined to be between the hours of 7:15 and 8:15 a.m. The afternoon peak hour was determined to be between the hours of 4:45 and 5:45 p.m. Detailed count data are included in Appendix A. Traffic volumes are 13 percent higher during the a.m. peak hour than during the p.m. peak hour. This is likely due to the high school traffic that loads during the a.m. peak but unloads before the p.m. peak. The combined background traffic when combined with the proposed project related traffic is anticipated to be higher during the a.m. peak. Therefore, the a.m. peak hour was determined to be the worst-case scenario and was the time period chosen for analysis of this TIS.

Figure 2 shows the existing a.m. peak hour volume as well as intersection geometry at the study intersections.

D. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2010 methodology introduced in Chapter I, the a.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 2 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2012) conditions. As shown in Table 2, all intersections have acceptable levels of service during the a.m. peak hour.

Table 2 Existing (2012) Background a.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Cedar Hills Drive / North County Blvd.	Signal	-	-	-	14.9	B
1800 North / North County Blvd.	WB Stop	WB	5.1	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, February 2012

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing was observed other than temporary queuing due to school traffic.

F. Mitigation Measures

No mitigation measures are currently required.


99
301
103
244
155
105
s Blvd
Cedar Hills Blvd
31
46
29
42
268
54
North County Blvd
13
422
29
22
335
3
1800 North

III. PROJECT CONDITIONS

A. Purpose

The project conditions analysis explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in the Introduction.

B. Project Description

This study addresses the traffic impacts associated with the proposed Harts Gas Station in Cedar Hills, Utah. The project site is located east of North County Blvd (4800 West) approximately half way between 1800 North and Cedar Hills Blvd. A site plan for the proposed development has been included in Appendix C.

The proposed land use for the development has been identified as follows:

- Gasoline/Service Station with Convenience Market:
  - 16 vehicle fueling positions
  - ~4,400 square feet convenience market

C. Trip Generation

Trip generation for the development was calculated using rates published in the ITE *Trip Generation (8th Edition, 2008)*. Trip Generation for the proposed project is included in Table 3. Trip generation for this particular land use can be calculated based on the number of fueling stations, the size of the building, or by the adjacent peak hour traffic volume. The size of the building (approximately 4,400 square feet) is significantly larger than the average size contained in the data set (approximately 1,000 square feet). The adjacent peak hour traffic (800 to 1,000 vph) is significantly lower than the average peak hour traffic in the data set (2,500 to 3,500 vph). The data set for fueling stations does include several data points for gas stations with 16 fuelling stations. The projected peak hour trip generation based on 6 fuelling stations is well above typical trip generation rates for other gas stations with convenience markets. Hales Engineering believes that the calculated trip generation, despite the station's location on a fairly low-volume street, is conservatively high enough to account for the popular nature of other Harts stations in Utah.

ITE *Trip Generation* rates do not account for pass-by trips (trips that are already on the adjacent roadway that are a portion of the trips entering/exiting the development). According to ITE data (*ITE Trip Generation Handbook*, Second Edition, 2004), approximately 62 percent of a.m. trips and 56 percent of p.m. trips are "pass-by" trips. However, because if the low volume of traffic on

North County Blvd (less than 10,000 vpd), Hales Engineering has only assumed a 40 percent pass-by reduction in order to remain conservative.

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially in close proximity to the site. The resulting distribution of project generated trips is as follows:

To/From Project Site:

- 40% North
- 15% East
- 40% South
- 5% West

These trip distribution assumptions were used to assign the a.m. and p.m. peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment is shown in Figure 3 for the a.m. peak hour.

E. Access

The proposed access for the site will be gained at the following locations (see also site plan in Appendix C):

North County Blvd.:

- Full access using new road constructed on the north property line (approximately 300 feet south of Cedar Hills Drive).
- Full access using main access in the middle of the development's frontage (approximately 520 feet south of Cedar Hills Drive).

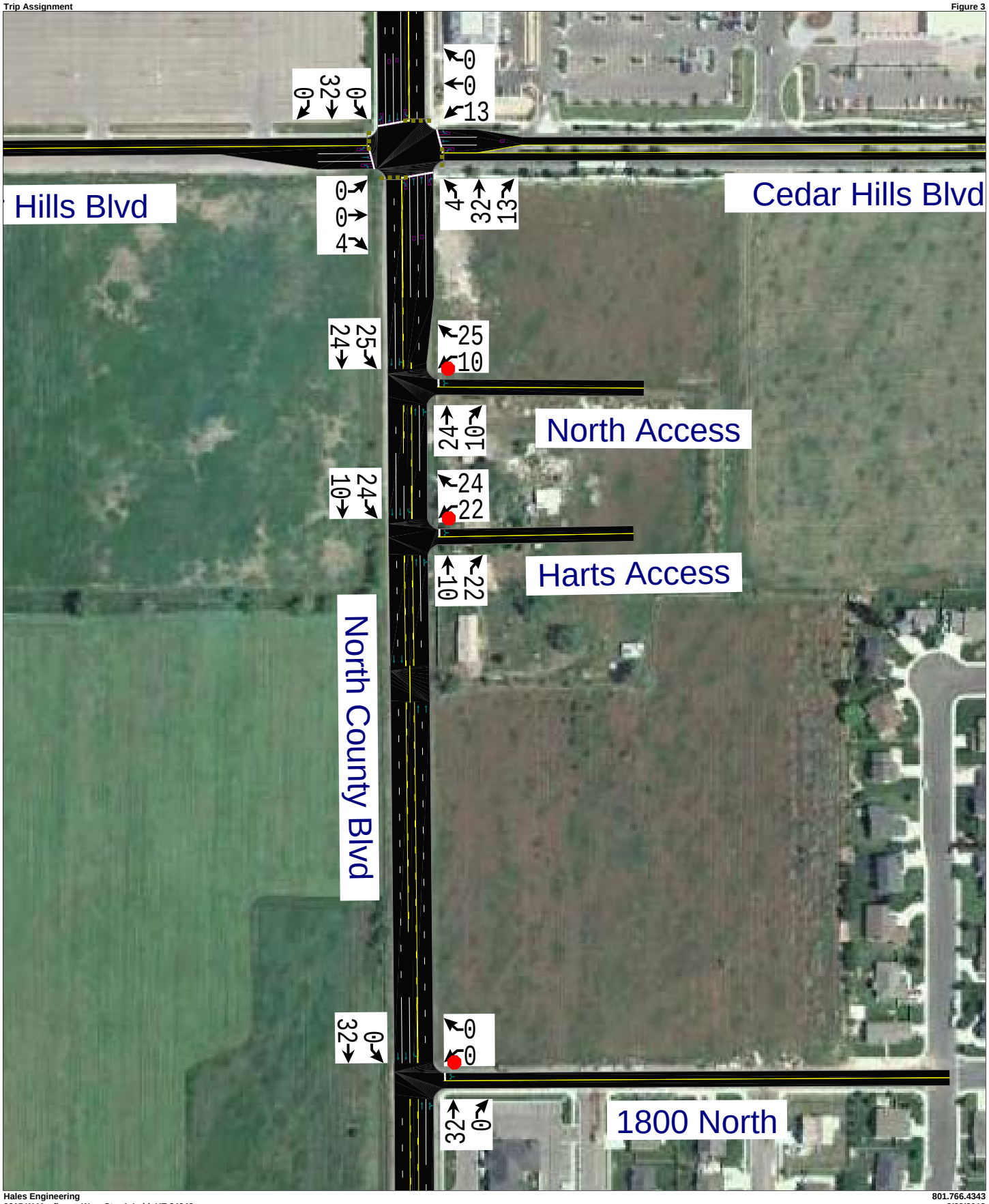
Future cross access is recommended to the east and south as the property is part of a larger commercially-zoned area.

Table 3
Cedar Hills - Harts TIS
Trip Generation

Daily Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	Total Daily Trips
Gasoline/Servce Station with Convenience Market (945)	16	Vehicle Fueling Positions	2,604	50%	50%	1,302	1,302	0%	1,302	1,302	**2,604**
Project Total Daily Trips						**1,302**	**1,302**		**1,302**	**1,302**	**2,604**
a.m. Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	**Total a.m. Trips**
Gasoline/Servce Station with Convenience Market (945)	16	Vehicle Fueling Positions	163	50%	50%	81	81	40%	49	49	**98**
Project Total a.m. Peak Hour Trips						**81**	**81**		**49**	**49**	**98**
p.m. Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	**Total p.m. Trips**
Gasoline/Servce Station with Convenience Market (945)	16	Vehicle Fueling Positions	214	50%	50%	107	107	40%	64	64	**128**
Project Total p.m. Peak Hour Trips						**107**	**107**		**64**	**64**	**128**

1. Land Use Code from the Institute of Transportation Engineers - 8th Edition Trip Generation Manual (ITE Manual)

SOURCE: Hales Engineering, February 2012


Hills Blvd
Cedar Hills Blvd
North Access
Harts Access
North County Blvd
1800 North
0 32 0
0 0 13
0 0 4
4 32 13
25 24
25 10
24 10
24 22
10 24
10 22
0 32
0 0
32 0

IV. EXISTING (2012) PLUS PROJECT CONDITIONS

A. Purpose

This section of the report examines the traffic impacts of the proposed project at each of the study intersections. The net trips generated by the proposed development were combined with the existing background traffic volumes to create the existing plus project conditions. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Project trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements.

The existing (2012) plus project a.m. peak hour volumes were generated for the study intersections and are shown in Figure 4.

C. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2010 methodology introduced in Chapter I, the a.m. and p.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 4 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. As shown in Table 4, all study intersections continue to have excellent levels of service with the proposed project traffic added.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. Queue lengths do not significantly change with the addition of project traffic. The 95th percentile queue lengths for vehicles exiting proposed project were calculated to be up to two car lengths.

Table 4 Existing (2012) Plus Project a.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Cedar Hills Drive / North County Blvd.	Signal	-	-	-	15.0	B
North Access / North County Blvd.	WB Stop	WB	4.1	A	-	-
Harts Access / North County Blvd.	WB Stop	WB	4.6	A	-	-
1800 North / North County Blvd.	WB Stop	WB	5.2	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, February 2012

E. Mitigation Measures

No mitigation measures are recommended.

The plus project conditions scenario assumed that the TWLTL median would be available for left-turn movements into the main Harts access. No separate turn pockets were assumed for the right-turn movements. The existing shoulder is large enough for vehicles turning right to exit the main flow of traffic before turning the development.


99
318
103
244
155
118
31
46
33
46
285
67
Cedar Hills Blvd
Cedar Hills
25
444
25
10
373
10
North Access
24
430
24
22
Harts Access
22
359
North County Blvd
13
439
29
22
352
3
1800 North

V. FUTURE (2030) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2030) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified and potential mitigation measures recommended.

B. Traffic Volumes

Hales Engineering obtained results from the Mountainland Association of Governments (MAG) 2040 model for the Cedar Hills area. Based on the current traffic volumes and the future 2040 forecasted volumes, 2030 traffic volumes were interpolated for streets within the study area. The future (2030) ADT on North County Blvd. adjacent to the project site is anticipated to be approximately 19,000 vpd. The future (2030) ADT on Cedar Hills Drive is projected to be approximately 8,000 vpd. Both of these daily volumes are well within the capacity of a five- and three-lane road, respectively. The increased traffic contained within the travel demand model is assumed to include growth from adjacent vacant land in addition to increases in cut-through traffic from other areas.

Future 2030 a.m. peak hour turning movement volumes were calculated using NCHRP 255 methodologies. These volumes are shown in Figure 5.

C. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2010 methodology introduced in Chapter I, the a.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 5 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development for future (2030) conditions. As shown in Table 5, all of the study intersections have acceptable levels of service for the a.m. peak hour.

Table 5 Future (2030) Background a.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Cedar Hills Drive / North County Blvd.	Signal	-	-	-	19.3	B
1800 North / North County Blvd.	WB Stop	WB	8.9	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, February 2012

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. Westbound queuing on Cedar Hills Drive at North County Blvd. was calculated to be fairly high. The 95th percentile queue length for the westbound to southbound left-turn movement was calculated to be approximately 140 feet which is slightly longer than the available turn pocket and taper length. This means that queuing for this movement could block through traffic, and a long westbound through movement queue could prevent access to the turn pocket. The model estimates that one movement or the other is blocked 25 percent of the peak hour.

E. Mitigation Measures

The city should continue to monitor the Cedar Hills Drive / North County Blvd. intersection and may need to consider extending the left-turn pocket for the westbound to southbound left-turn movement in order to prevent storage blocking from occurring.


Hills Blvd
Cedar Hills Blvd
North County Blvd
1800 North
110
570
140
260
200
200
40
60
70
100
510
100
20
820
40
30
670
10

VI. FUTURE (2030) PLUS PROJECT CONDITIONS

A. Purpose

This section of the report examines the traffic impacts of the proposed project at each of the study intersections during future 2030 conditions. The trips generated by the proposed development were combined with the future 2030 background traffic volumes to create the future plus project conditions. The future plus project scenario evaluates the impacts of the project traffic on the surrounding roadway network assuming build-out as discussed in Chapter III of this report. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements.

The future (2030) plus project a.m. peak hour volumes were generated for the study intersections and are shown in Figure 6.

C. Level of Service Analysis

Using the Synchro/SimTraffic Software which follow the Highway Capacity Manual (HCM) 2000 methodology introduced in Chapter I, the future 2030 plus project a.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 6 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used for the analysis to provide a statistical evaluation of the interaction between the intersections. As shown in Table 6, all of the study intersections experience acceptable levels of delay during the a.m. peak hour.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing was observed.

E. Mitigation Measures

No mitigation measures are recommended.

Table 6 Future (2030) Plus Project a.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Cedar Hills Drive / North County Blvd.	Signal	-	-	-	20.7	C
North Access / North County Blvd.	WB Stop	WB	9.2	A	-	-
Harts Access / North County Blvd.	WB Stop	WB	11.0	B	-	-
1800 North / North County Blvd.	WB Stop	WB	9.7	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, February 2012


110
587
140
260
200
213
40
60
74
104
527
113
Cedar Hills Blvd
Cedar Hills
25
849
25
10
North Access
719
10
24
835
24
22
Harts Access
22
705
North County Blvd
20
837
40
30
789
10
1800 North

HALES ENGINEERING
innovative transportation solutions

APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

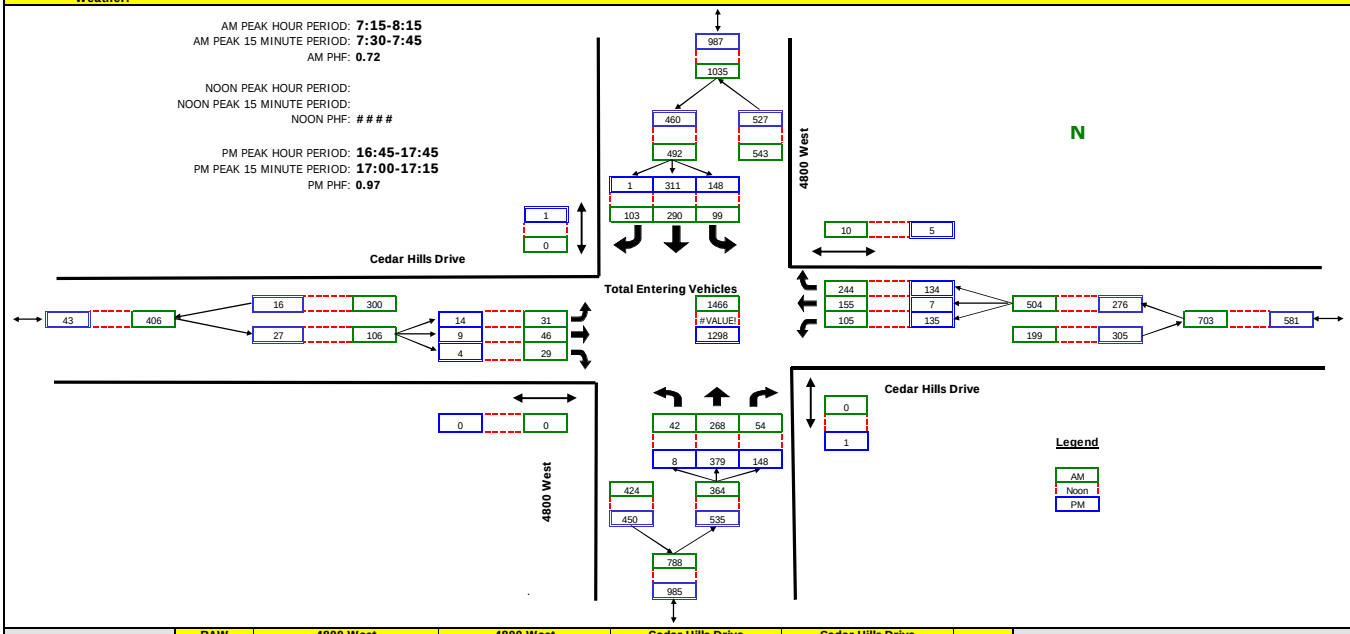
Intersection: 4800 West / Cedar Hills Drive
North/South: 4800 West
East/West: Cedar Hills Drive
Jurisdiction: Cedar Hills, UT
Project Title:
Project No: P391
Weather:

Date: 2-14-12, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #:
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.72**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:00-17:15**
PM PHF: **0.97**



RAW COUNT SUMMARIES	4800 West Northbound				4800 West Southbound				Cedar Hills Drive Eastbound				Cedar Hills Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	

AM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	55	15	0	14	41	1	0	1	1	1	0	7	3	26	1	165
7:15-7:30	4	67	6	0	14	57	16	0	11	7	5	0	23	24	47	1	281
7:30-7:45	29	58	11	0	22	60	64	0	14	31	18	0	23	103	79	6	512
7:45-8:00	7	81	23	0	35	88	20	0	6	8	6	0	39	25	81	3	419
8:00-8:15	2	62	14	0	28	85	3	0	0	0	0	0	20	3	37	0	254
8:15-8:30	0	50	18	0	14	80	2	2	0	2	0	0	22	1	30	0	219
8:30-8:45	1	49	10	0	15	47	2	0	0	1	1	0	25	0	19	0	170
8:45-9:00	1	46	19	1	16	64	1	0	3	0	0	0	31	4	21	1	206

NOON PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	3	65	30	0	30	88	2	1	13	6	0	3	23	3	29	4	292
16:15-16:30	1	81	34	0	26	62	0	0	6	2	0	0	41	2	37	3	292
16:30-16:45	2	90	37	0	44	71	0	0	0	1	2	0	22	0	34	0	303
16:45-17:00	1	98	38	1	23	79	0	0	2	6	0	0	40	1	38	3	326
17:00-17:15	0	93	42	0	43	84	0	0	4	0	0	0	39	0	31	0	336
17:15-17:30	3	81	34	0	49	74	0	1	4	1	2	0	31	2	32	0	313
17:30-17:45	4	107	34	0	33	74	1	0	4	2	2	0	25	4	33	2	323
17:45-18:00	16	74	33	0	33	68	0	0	0	1	1	0	43	4	36	1	309

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

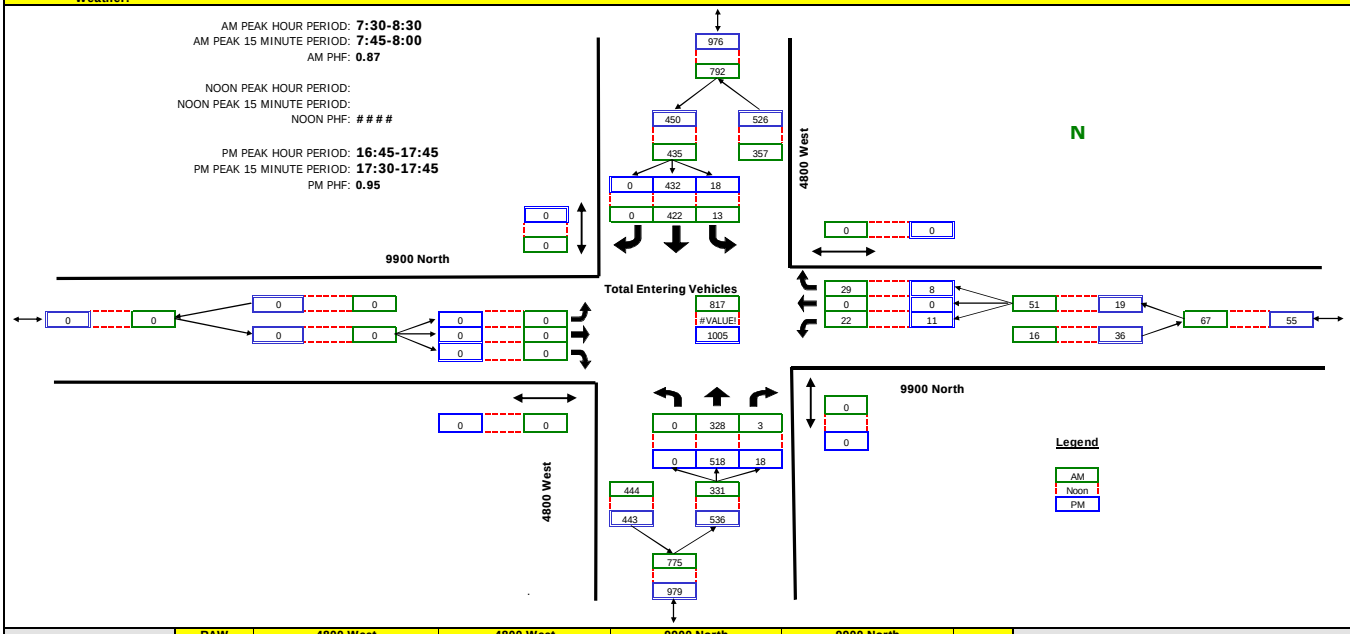
Intersection: 4800 West / 9900 North
North/South: 4800 West
East/West: 9900 North
Jurisdiction: Cedar Hills, UT
Project Title:
Project No: P391
Weather:

Date: 2-14-12, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #:
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **7:30-8:30**
AM PEAK 15 MINUTE PERIOD: **7:45-8:00**
AM PHF: **0.87**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:30-17:45**
PM PHF: **0.95**



RAW COUNT SUMMARIES	4800 West Northbound				4800 West Southbound				9900 North Eastbound				9900 North Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	

AM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	59	3	0	2	50	0	0	0	0	0	0	2	0	1	0	117
7:15-7:30	0	80	0	0	1	70	0	0	0	0	0	0	1	0	5	0	157
7:30-7:45	0	86	2	0	6	93	0	0	0	0	0	0	7	0	11	0	205
7:45-8:00	0	101	1	0	3	118	0	0	0	0	0	0	4	0	9	0	236
8:00-8:15	0	76	0	0	3	114	0	0	0	0	0	0	6	0	5	0	204
8:15-8:30	0	65	0	0	1	97	0	0	0	0	0	0	5	0	4	0	172
8:30-8:45	0	55	1	0	0	89	0	0	0	0	0	0	1	0	4	0	150
8:45-9:00	0	73	2	0	0	94	0	0	0	0	0	0	2	0	2	0	173

NOON PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PERIOD COUNTS

Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	97	3	0	5	113	0	0	0	0	0	0	5	0	2	0	225
16:15-16:30	0	106	5	0	3	112	0	0	0	0	0	0	7	0	3	0	236
16:30-16:45	0	128	4	0	4	80	0	0	0	0	0	0	3	0	2	0	221
16:45-17:00	0	124	4	0	7	111	0	0	0	0	0	0	4	0	5	0	255
17:00-17:15	0	129	5	0	6	109	0	0	0	0	0	0	1	0	2	0	252
17:15-17:30	0	112	4	0	1	111	0	0	0	0	0	0	5	0	0	0	233
17:30-17:45	0	153	5	0	4	101	0	0	0	0	0	0	1	0	1	0	265
17:45-18:00	0	116	4	0	0	117	0	0	0	0	0	0	7	0	2	0	246

HALES ENGINEERING
innovative transportation solutions

APPENDIX B

LOS Results

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Cedar Hills - Harts TIS
Analysis Period: *Existing 2012 Background*
Time Period: *a.m. Peak Hour* **Project #:** *UT12-333*

Intersection: North County Blvd & Cedar Hills Blvd
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	42	42	100	13.0	*B*
	T	274	274	100	14.2	*B*
	R	54	53	98	3.2	*A*
	Subtotal	370	369	100	12.5	*B*
SB	L	99	102	103	15.9	*B*
	T	301	302	100	11.6	*B*
	R	103	102	99	4.0	*A*
	Subtotal	503	506	101	10.9	*B*
EB	L	31	31	99	22.2	*C*
	T	46	47	102	27.7	*C*
	R	29	33	113	8.4	*A*
	Subtotal	106	111	105	20.4	*C*
WB	L	105	105	100	24.5	*C*
	T	155	158	102	24.3	*C*
	R	244	238	98	13.9	*B*
	Subtotal	504	501	99	19.4	*B*
Total		1,484	1,487	100	14.9	*B*

Intersection: North County Blvd & 1800 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	335	334	100	0.3	*A*
	R	3	4	133	0.2	*A*
	Subtotal	338	338	100	0.3	*A*
SB	L	13	14	110	2.2	*A*
	T	449	454	101	0.2	*A*
	Subtotal	462	468	101	0.3	*A*
WB	L	22	21	95	6.9	*A*
	R	29	29	99	3.8	*A*
	Subtotal	***51***	***50***	***98***	***5.1***	***A***
Total		851	856	101	0.6	*A*

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.1	0.0
Delay / Veh (s)	21.0	26.9	8.3	19.3	19.3	9.2	8.6	10.7	2.7	12.2	7.6	3.0
Vehicles Entered	4	6	5	20	29	45	9	64	13	21	70	26
Vehicles Exited	4	6	5	19	30	45	9	64	12	21	69	25
Hourly Exit Rate	16	24	20	76	120	180	36	256	48	84	276	100
Input Volume	17	25	16	83	122	192	39	257	50	92	279	95
% of Volume	94	96	125	92	98	94	92	100	96	91	99	105

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	All
Total Delay (hr)	0.9
Delay / Veh (s)	10.7
Vehicles Entered	312
Vehicles Exited	309
Hourly Exit Rate	1236
Input Volume	1267
% of Volume	98

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.2	0.0	0.4	0.5	0.5	0.1	0.5	0.0	0.2	0.4	0.0
Delay / Veh (s)	21.2	27.7	8.5	29.7	30.0	18.7	19.5	21.5	4.8	22.9	17.7	6.0
Vehicles Entered	18	29	18	45	67	98	14	82	15	33	91	29
Vehicles Exited	17	28	17	44	62	94	13	81	16	32	88	29
Hourly Exit Rate	68	112	68	176	248	376	52	324	64	128	352	116
Input Volume	74	110	69	172	254	400	51	327	66	121	367	126
% of Volume	92	102	99	102	98	94	102	99	97	106	96	92

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	All
Total Delay (hr)	3.0
Delay / Veh (s)	20.6
Vehicles Entered	539
Vehicles Exited	521
Hourly Exit Rate	2084
Input Volume	2137
% of Volume	98

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.1	0.0	0.1	0.2	0.2	0.0	0.2	0.0	0.1	0.2	0.0
Delay / Veh (s)	25.4	29.6	7.2	23.2	22.6	13.0	11.6	12.1	2.5	13.5	10.5	3.6
Vehicles Entered	4	6	5	20	32	48	10	64	12	24	73	24
Vehicles Exited	5	7	6	22	36	51	11	66	12	25	76	24
Hourly Exit Rate	20	28	24	88	144	204	44	264	48	100	304	96
Input Volume	17	25	16	83	122	192	39	257	50	92	279	95
% of Volume	118	112	150	106	118	106	113	103	96	109	109	101

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	All
Total Delay (hr)	1.2
Delay / Veh (s)	13.4
Vehicles Entered	322
Vehicles Exited	341
Hourly Exit Rate	1364
Input Volume	1267
% of Volume	108

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.2	0.0
Delay / Veh (s)	23.6	26.1	7.6	19.0	19.0	9.5	10.9	10.7	2.3	12.3	8.9	3.0
Vehicles Entered	4	6	5	20	30	47	9	64	13	24	69	24
Vehicles Exited	4	6	5	20	30	47	9	64	13	24	68	24
Hourly Exit Rate	16	24	20	80	120	188	36	256	52	96	272	96
Input Volume	17	25	16	83	122	192	39	257	50	92	279	95
% of Volume	94	96	125	96	98	98	92	100	104	104	97	101

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	All
Total Delay (hr)	1.0
Delay / Veh (s)	11.0
Vehicles Entered	315
Vehicles Exited	314
Hourly Exit Rate	1256
Input Volume	1267
% of Volume	99

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.2	0.4	0.1	0.7	1.1	0.9	0.2	1.1	0.0	0.4	1.0	0.1
Delay / Veh (s)	22.2	27.7	8.4	24.5	24.3	13.9	13.0	14.2	3.2	15.9	11.6	4.0
Vehicles Entered	31	47	33	105	158	238	42	274	53	101	302	103
Vehicles Exited	31	47	33	105	158	238	42	274	53	102	302	102
Hourly Exit Rate	31	47	33	105	158	238	42	274	53	102	302	102
Input Volume	31	46	29	105	155	244	42	274	54	99	301	103
% of Volume	99	102	113	100	102	98	100	100	98	103	100	99

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	All
Total Delay (hr)	6.1
Delay / Veh (s)	14.9
Vehicles Entered	1487
Vehicles Exited	1487
Hourly Exit Rate	1487
Input Volume	1484
% of Volume	100

5: North County Blvd & 1800 North Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	6.5	4.0	0.3	0.3	2.5	0.2	0.5
Vehicles Entered	4	5	81	1	3	99	193
Vehicles Exited	4	5	80	1	3	99	192
Hourly Exit Rate	16	20	320	4	12	396	768
Input Volume	21	28	318	3	12	401	783
% of Volume	76	71	101	133	100	99	98

5: North County Blvd & 1800 North Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	8.6	3.5	0.4	0.1	2.0	0.2	0.6
Vehicles Entered	6	9	96	1	6	143	261
Vehicles Exited	6	9	96	1	6	142	260
Hourly Exit Rate	24	36	384	4	24	568	1040
Input Volume	25	33	385	3	15	593	1054
% of Volume	96	109	100	133	160	96	99

5: North County Blvd & 1800 North Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	6.9	3.6	0.3	0.4	2.8	0.3	0.6
Vehicles Entered	5	7	79	1	2	114	208
Vehicles Exited	5	8	79	1	2	114	209
Hourly Exit Rate	20	32	316	4	8	456	836
Input Volume	21	28	318	3	12	401	783
% of Volume	95	114	99	133	67	114	107

5: North County Blvd & 1800 North Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	6.6	3.7	0.3	0.1	1.9	0.2	0.6
Vehicles Entered	5	8	79	1	2	98	193
Vehicles Exited	5	8	79	1	3	99	195
Hourly Exit Rate	20	32	316	4	12	396	780
Input Volume	21	28	318	3	12	401	783
% of Volume	95	114	99	133	100	99	100

5: North County Blvd & 1800 North Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	6.9	3.8	0.3	0.2	2.2	0.2	0.6
Vehicles Entered	21	29	334	4	14	454	856
Vehicles Exited	21	29	334	4	14	454	856
Hourly Exit Rate	21	29	334	4	14	454	856
Input Volume	22	29	335	3	13	449	851
% of Volume	95	99	100	133	110	101	101

Total Network Performance By Interval

Interval Start	7:15	7:30	7:45	8:00	All
Total Delay (hr)	1.1	3.4	1.5	1.2	7.2
Delay / Veh (s)	12.3	23.1	14.9	12.7	16.7
Vehicles Entered	325	546	338	329	1539
Vehicles Exited	322	518	368	330	1538
Hourly Exit Rate	1288	2072	1472	1320	1538
Input Volume	5539	8326	5539	5539	6236
% of Volume	23	25	27	24	25

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	35	45	35	72	102	83	37	56	65	32	58	43
Average Queue (ft)	15	18	13	37	52	44	14	28	36	14	31	21
95th Queue (ft)	41	51	39	77	106	87	39	63	68	31	59	52
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)		0		6	10	3						
Queuing Penalty (veh)		0		20	28	5						

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	79	40
Average Queue (ft)	38	16
95th Queue (ft)	76	42
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	70	96	52	116	415	120	67	102	107	39	84	94
Average Queue (ft)	40	61	28	76	176	89	29	59	65	18	51	47
95th Queue (ft)	75	110	60	134	424	144	71	108	116	39	89	97
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	3	7	0	19	29	13						
Queuing Penalty (veh)	4	5	0	126	166	55						

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	106	72
Average Queue (ft)	68	30
95th Queue (ft)	113	70
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	40	59	34	97	270	113	42	71	73	26	68	61
Average Queue (ft)	18	23	15	44	80	52	20	31	39	12	34	28
95th Queue (ft)	48	60	42	91	265	107	48	69	76	29	65	65
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	1		8	12	5						
Queuing Penalty (veh)	0	0		27	34	11						

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	76	41
Average Queue (ft)	44	20
95th Queue (ft)	84	46
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	35	45	31	73	102	91	38	61	71	34	67	65
Average Queue (ft)	15	20	14	35	45	44	17	27	38	12	33	26
95th Queue (ft)	42	52	39	71	100	84	44	65	71	34	70	67
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)		0		6	10	3						
Queuing Penalty (veh)		0		18	26	7						

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	71	43
Average Queue (ft)	39	20
95th Queue (ft)	75	47
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	72	99	59	120	423	120	69	106	110	49	88	94
Average Queue (ft)	22	30	18	48	88	57	20	36	44	14	37	31
95th Queue (ft)	56	79	47	102	270	115	53	82	88	34	74	74
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	1	2	0	10	15	6						
Queuing Penalty (veh)	1	1	0	48	63	20						

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	113	76
Average Queue (ft)	47	21
95th Queue (ft)	92	53
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	42	11
Average Queue (ft)	26	2
95th Queue (ft)	49	15
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	49	20
Average Queue (ft)	31	5
95th Queue (ft)	53	23
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	46	20
Average Queue (ft)	28	4
95th Queue (ft)	54	19
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	50	11
Average Queue (ft)	28	3
95th Queue (ft)	55	16
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, All Intervals

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	64	28
Average Queue (ft)	28	3
95th Queue (ft)	53	18
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 53
Network wide Queuing Penalty, Interval #2: 357
Network wide Queuing Penalty, Interval #3: 72
Network wide Queuing Penalty, Interval #4: 51
Network wide Queuing Penalty, All Intervals: 133

HALES ENGINEERING
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SimTraffic LOS Report

Project: Cedar Hills - Harts TIS
Analysis Period: *Existing 2012 Plus Project*
Time Period: *a.m. Peak Hour* **Project #:** *UT12-333*

Intersection: North County Blvd & Cedar Hills Blvd
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	46	44	95	12.9	*B*
	T	296	295	100	14.2	*B*
	R	67	64	96	3.0	*A*
	Subtotal	409	403	99	12.3	*B*
SB	L	99	101	102	16.2	*B*
	T	318	319	100	13.0	*B*
	R	103	102	99	3.5	*A*
	Subtotal	520	522	100	11.8	*B*
EB	L	31	31	99	24.5	*C*
	T	46	48	104	30.9	*C*
	R	33	32	96	9.2	*A*
	Subtotal	110	111	101	22.9	*C*
WB	L	118	122	103	23.9	*C*
	T	155	156	101	24.2	*C*
	R	244	241	99	12.7	*B*
	Subtotal	517	519	100	18.8	*B*
Total		1,557	1,555	100	15.0	*B*

Intersection: North County Blvd & North Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	374	365	98	0.4	*A*
	R	10	9	90	0.0	*A*
	Subtotal	384	374	97	0.4	*A*
SB	L	25	25	101	4.0	*A*
	T	453	456	101	1.7	*A*
	Subtotal	478	481	101	1.8	*A*
WB	L	10	9	90	5.8	*A*
	R	25	27	109	3.5	*A*
	Subtotal	***35***	***36***	***103***	***4.1***	***A***
Total		896	891	99	1.3	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Cedar Hills - Harts TIS
Analysis Period: *Existing 2012 Plus Project*
Time Period: *a.m. Peak Hour* **Project #:** *UT12-333*

Intersection: North County Blvd & Harts Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	376	366	97	0.3	*A*
	R	22	23	103	0.2	*A*
	Subtotal	398	389	98	0.3	*A*
SB	L	24	22	93	2.9	*A*
	T	430	433	101	0.2	*A*
	Subtotal	454	455	100	0.3	*A*
WB	L	22	22	99	6.0	*A*
	R	24	25	105	3.3	*A*
	Subtotal	***46***	***47***	***102***	***4.6***	***A***
Total		899	891	99	0.5	*A*

Intersection: North County Blvd & 1800 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	352	344	98	0.3	*A*
	R	3	4	133	0.2	*A*
	Subtotal	355	348	98	0.3	*A*
SB	L	13	10	78	2.1	*A*
	T	460	465	101	0.2	*A*
	Subtotal	473	475	100	0.2	*A*
WB	L	22	19	86	6.9	*A*
	R	29	27	92	4.0	*A*
	Subtotal	***51***	***46***	***90***	***5.2***	***A***
Total		878	869	99	0.6	*A*

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.2	0.0
Delay / Veh (s)	19.6	30.2	7.2	19.3	21.1	9.0	10.1	10.6	2.4	12.8	8.4	2.8
Vehicles Entered	4	5	4	21	31	46	12	67	16	23	71	27
Vehicles Exited	4	5	4	20	30	46	12	66	16	23	71	26
Hourly Exit Rate	16	20	16	80	120	184	48	264	64	92	284	104
Input Volume	17	25	18	93	122	192	43	264	62	92	295	95
% of Volume	94	80	89	86	98	96	112	100	103	100	96	109

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	All
Total Delay (hr)	1.0
Delay / Veh (s)	11.0
Vehicles Entered	327
Vehicles Exited	323
Hourly Exit Rate	1292
Input Volume	1318
% of Volume	98

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.3	0.1	0.4	0.5	0.5	0.1	0.6	0.0	0.2	0.5	0.0
Delay / Veh (s)	24.2	32.8	10.0	28.4	29.5	17.6	17.3	21.1	4.3	21.7	19.8	5.7
Vehicles Entered	18	29	20	53	64	97	12	95	18	31	99	29
Vehicles Exited	17	28	20	51	62	93	12	94	18	30	96	29
Hourly Exit Rate	68	112	80	204	248	372	48	376	72	120	384	116
Input Volume	74	110	79	193	254	400	56	392	82	121	388	126
% of Volume	92	102	101	106	98	93	86	96	88	99	99	92

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	All
Total Delay (hr)	3.2
Delay / Veh (s)	20.6
Vehicles Entered	565
Vehicles Exited	550
Hourly Exit Rate	2200
Input Volume	2275
% of Volume	97

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.1	0.0	0.2	0.2	0.2	0.0	0.2	0.0	0.1	0.2	0.0
Delay / Veh (s)	25.7	30.9	7.0	22.3	20.9	10.3	12.3	12.6	2.9	15.4	11.3	2.5
Vehicles Entered	5	7	3	24	31	50	11	70	15	23	74	22
Vehicles Exited	6	9	4	26	34	54	11	71	15	24	77	22
Hourly Exit Rate	24	36	16	104	136	216	44	284	60	96	308	88
Input Volume	17	25	18	93	122	192	43	264	62	92	295	95
% of Volume	141	144	89	112	111	112	102	108	97	104	104	93

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	All
Total Delay (hr)	1.3
Delay / Veh (s)	13.2
Vehicles Entered	335
Vehicles Exited	353
Hourly Exit Rate	1412
Input Volume	1318
% of Volume	107

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.2	0.0
Delay / Veh (s)	28.6	27.5	9.6	20.9	20.3	9.0	10.3	9.6	2.4	12.4	10.4	2.7
Vehicles Entered	4	7	5	23	30	48	9	63	14	23	74	24
Vehicles Exited	4	6	4	23	30	48	10	64	14	23	75	24
Hourly Exit Rate	16	24	16	92	120	192	40	256	56	92	300	96
Input Volume	17	25	18	93	122	192	43	264	62	92	295	95
% of Volume	94	96	89	99	98	100	93	97	90	100	102	101

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	All
Total Delay (hr)	1.0
Delay / Veh (s)	11.5
Vehicles Entered	324
Vehicles Exited	325
Hourly Exit Rate	1300
Input Volume	1318
% of Volume	99

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.2	0.4	0.1	0.8	1.0	0.9	0.2	1.2	0.1	0.5	1.2	0.1
Delay / Veh (s)	24.5	30.9	9.2	23.9	24.2	12.7	12.9	14.2	3.0	16.2	13.0	3.5
Vehicles Entered	31	48	32	122	156	242	44	295	64	100	319	102
Vehicles Exited	31	48	32	122	156	241	44	295	64	101	319	102
Hourly Exit Rate	31	48	32	122	156	241	44	295	64	101	319	102
Input Volume	31	46	33	118	155	244	46	296	67	99	318	103
% of Volume	99	104	96	103	101	99	95	100	96	102	100	99

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	All
Total Delay (hr)	6.5
Delay / Veh (s)	15.0
Vehicles Entered	1555
Vehicles Exited	1555
Hourly Exit Rate	1555
Input Volume	1557
% of Volume	100

2: North County Blvd & North Access Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	5.9	3.0	0.3	0.0	4.3	1.6	1.1
Vehicles Entered	2	6	86	2	4	93	193
Vehicles Exited	2	6	86	2	4	93	193
Hourly Exit Rate	8	24	344	8	16	372	772
Input Volume	9	22	332	9	22	395	789
% of Volume	89	109	104	89	73	94	98

2: North County Blvd & North Access Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Delay / Veh (s)	5.8	3.9	0.5	0.1	4.5	1.9	1.4
Vehicles Entered	3	7	118	3	8	158	297
Vehicles Exited	3	7	118	3	8	158	297
Hourly Exit Rate	12	28	472	12	32	632	1188
Input Volume	13	33	498	13	33	627	1217
% of Volume	92	85	95	92	97	101	98

2: North County Blvd & North Access Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	4.6	3.3	0.4	0.0	4.1	1.7	1.3
Vehicles Entered	3	8	84	2	5	106	208
Vehicles Exited	3	8	85	2	5	107	210
Hourly Exit Rate	12	32	340	8	20	428	840
Input Volume	9	22	332	9	22	395	789
% of Volume	133	145	102	89	91	108	106

2: North County Blvd & North Access Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	4.7	3.6	0.3	0.0	3.6	1.7	1.3
Vehicles Entered	2	6	76	2	7	98	191
Vehicles Exited	2	6	76	2	7	98	191
Hourly Exit Rate	8	24	304	8	28	392	764
Input Volume	9	22	332	9	22	395	789
% of Volume	89	109	92	89	127	99	97

2: North County Blvd & North Access Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.3
Delay / Veh (s)	5.8	3.5	0.4	0.0	4.0	1.7	1.3
Vehicles Entered	9	27	365	9	25	455	890
Vehicles Exited	9	27	365	9	25	456	891
Hourly Exit Rate	9	27	365	9	25	456	891
Input Volume	10	25	374	10	25	453	896
% of Volume	90	109	98	90	101	101	99

3: North County Blvd & Harts Access Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	5.5	3.1	0.2	0.0	2.9	0.2	0.4
Vehicles Entered	4	6	87	4	5	90	196
Vehicles Exited	4	6	87	4	5	90	196
Hourly Exit Rate	16	24	348	16	20	360	784
Input Volume	20	21	342	20	21	383	807
% of Volume	80	114	102	80	95	94	97

3: North County Blvd & Harts Access Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	6.2	3.9	0.5	0.5	3.5	0.2	0.7
Vehicles Entered	8	8	114	9	6	145	290
Vehicles Exited	8	8	113	9	6	145	289
Hourly Exit Rate	32	32	452	36	24	580	1156
Input Volume	29	32	479	29	32	573	1174
% of Volume	110	100	94	124	75	101	98

3: North County Blvd & Harts Access Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	5.9	3.0	0.2	0.1	2.6	0.2	0.5
Vehicles Entered	6	6	86	6	7	103	214
Vehicles Exited	5	6	86	6	7	102	212
Hourly Exit Rate	20	24	344	24	28	408	848
Input Volume	20	21	342	20	21	383	807
% of Volume	100	114	101	120	133	107	105

3: North County Blvd & Harts Access Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	6.1	2.9	0.2	0.0	2.8	0.2	0.5
Vehicles Entered	5	4	79	4	4	96	192
Vehicles Exited	5	5	80	4	4	96	194
Hourly Exit Rate	20	20	320	16	16	384	776
Input Volume	20	21	342	20	21	383	807
% of Volume	100	95	94	80	76	100	96

3: North County Blvd & Harts Access Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	6.0	3.3	0.3	0.2	2.9	0.2	0.5
Vehicles Entered	22	24	366	23	22	433	890
Vehicles Exited	22	25	366	23	22	433	891
Hourly Exit Rate	22	25	366	23	22	433	891
Input Volume	22	24	376	22	24	430	899
% of Volume	99	105	97	103	93	101	99

5: North County Blvd & 1800 North Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	6.1	3.4	0.3	0.3	2.5	0.2	0.5
Vehicles Entered	4	7	83	1	2	99	196
Vehicles Exited	4	8	83	1	2	99	197
Hourly Exit Rate	16	32	332	4	8	396	788
Input Volume	21	28	334	3	12	417	815
% of Volume	76	114	99	133	67	95	97

5: North County Blvd & 1800 North Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	7.8	4.0	0.4	0.3	1.8	0.3	0.6
Vehicles Entered	6	8	98	1	2	150	265
Vehicles Exited	6	8	98	1	3	150	266
Hourly Exit Rate	24	32	392	4	12	600	1064
Input Volume	25	33	405	3	15	587	1068
% of Volume	96	97	97	133	80	102	100

5: North County Blvd & 1800 North Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	5.7	4.2	0.3	0.4	2.0	0.2	0.5
Vehicles Entered	4	6	86	1	3	111	211
Vehicles Exited	4	6	86	1	3	110	210
Hourly Exit Rate	16	24	344	4	12	440	840
Input Volume	21	28	334	3	12	417	815
% of Volume	76	86	103	133	100	106	103

5: North County Blvd & 1800 North Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	6.0	3.8	0.3	0.1	2.4	0.2	0.6
Vehicles Entered	6	6	77	1	2	106	198
Vehicles Exited	6	6	77	1	2	106	198
Hourly Exit Rate	24	24	308	4	8	424	792
Input Volume	21	28	334	3	12	417	815
% of Volume	114	86	92	133	67	102	97

5: North County Blvd & 1800 North Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	6.9	4.0	0.3	0.2	2.1	0.2	0.6
Vehicles Entered	19	27	344	4	10	466	870
Vehicles Exited	19	27	344	4	10	465	869
Hourly Exit Rate	19	27	344	4	10	465	869
Input Volume	22	29	352	3	13	460	878
% of Volume	86	92	98	133	78	101	99

Total Network Performance By Interval

Interval Start	7:15	7:30	7:45	8:00	All
Total Delay (hr)	1.2	3.7	1.6	1.3	7.8
Delay / Veh (s)	12.4	22.9	14.6	12.7	16.6
Vehicles Entered	358	596	373	357	1686
Vehicles Exited	356	568	397	364	1686
Hourly Exit Rate	1424	2272	1588	1456	1686
Input Volume	5930	9000	5930	5930	6698
% of Volume	24	25	27	25	25

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	30	36	20	74	104	88	54	61	71	26	67	50
Average Queue (ft)	10	14	6	38	57	44	22	31	38	14	33	26
95th Queue (ft)	34	42	21	78	111	91	53	65	73	35	69	54
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)		0		6	12	3						
Queuing Penalty (veh)		0		20	36	6						

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	70	38
Average Queue (ft)	37	18
95th Queue (ft)	71	40
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	94	117	44	119	354	119	49	110	128	41	93	105
Average Queue (ft)	42	62	24	89	165	94	28	66	74	20	52	60
95th Queue (ft)	104	124	45	134	363	146	56	117	130	42	97	114
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	3	6		26	31	15			0			0
Queuing Penalty (veh)	6	5		173	182	65			0			0

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	118	52
Average Queue (ft)	78	24
95th Queue (ft)	130	52
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	41	51	18	90	169	102	36	76	82	35	83	68
Average Queue (ft)	18	22	6	45	61	52	22	39	47	16	41	35
95th Queue (ft)	47	61	21	88	178	101	43	78	86	37	86	74
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	1		11	12	4					0	
Queuing Penalty (veh)	0	0		33	34	9					0	

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	79	33
Average Queue (ft)	45	16
95th Queue (ft)	81	37
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	33	34	25	84	90	73	36	55	66	25	68	62
Average Queue (ft)	12	13	8	45	48	41	18	29	36	12	34	33
95th Queue (ft)	38	39	26	88	90	73	41	63	70	29	72	66
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	0		10	12	2						
Queuing Penalty (veh)	0	0		32	34	5						

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	73	36
Average Queue (ft)	44	17
95th Queue (ft)	81	41
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	95	123	44	119	363	119	62	115	134	49	110	108
Average Queue (ft)	21	28	11	54	83	58	22	41	49	15	40	39
95th Queue (ft)	64	81	32	109	227	116	49	88	98	36	83	84
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	1	2		13	17	6			0		0	0
Queuing Penalty (veh)	1	1		64	71	21			0		0	0

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	122	59
Average Queue (ft)	51	19
95th Queue (ft)	99	43
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: North County Blvd & North Access, Interval #1

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	43	21
Average Queue (ft)	23	5
95th Queue (ft)	52	23
Link Distance (ft)	352	288
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: North County Blvd & North Access, Interval #2

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	36	39
Average Queue (ft)	23	14
95th Queue (ft)	48	43
Link Distance (ft)	352	288
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: North County Blvd & North Access, Interval #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	40	32
Average Queue (ft)	23	8
95th Queue (ft)	50	33
Link Distance (ft)	352	288
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: North County Blvd & North Access, Interval #4

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	36	29
Average Queue (ft)	23	5
95th Queue (ft)	47	27
Link Distance (ft)	352	288
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: North County Blvd & North Access, All Intervals

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	50	47
Average Queue (ft)	23	8
95th Queue (ft)	49	33
Link Distance (ft)	352	288
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: North County Blvd & Harts Access, Interval #1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	36	30
Average Queue (ft)	25	5
95th Queue (ft)	47	24
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: North County Blvd & Harts Access, Interval #2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	51	30
Average Queue (ft)	31	9
95th Queue (ft)	56	33
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: North County Blvd & Harts Access, Interval #3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	40	33
Average Queue (ft)	23	8
95th Queue (ft)	48	30
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: North County Blvd & Harts Access, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	39	24
Average Queue (ft)	24	5
95th Queue (ft)	49	22
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: North County Blvd & Harts Access, All Intervals

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	59	36
Average Queue (ft)	26	7
95th Queue (ft)	51	28
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 5: North County Blvd & 1800 North, Interval #1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	53	17
Average Queue (ft)	28	3
95th Queue (ft)	57	17
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	52	19
Average Queue (ft)	32	3
95th Queue (ft)	57	17
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	42	20
Average Queue (ft)	27	3
95th Queue (ft)	50	16
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	46	14
Average Queue (ft)	25	2
95th Queue (ft)	52	14
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, All Intervals

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	62	29
Average Queue (ft)	28	3
95th Queue (ft)	55	16
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 61
Network wide Queuing Penalty, Interval #2: 430
Network wide Queuing Penalty, Interval #3: 76
Network wide Queuing Penalty, Interval #4: 71
Network wide Queuing Penalty, All Intervals: 160

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Cedar Hills - Harts TIS
Analysis Period: *Future 2030 Background*
Time Period: *a.m. Peak Hour* **Project #:** *UT12-333*

Intersection: North County Blvd & Cedar Hills Blvd
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	100	98	98	17.7	*B*
	T	511	515	101	18.3	*B*
	R	100	100	100	3.8	*A*
	Subtotal	711	713	100	16.2	*B*
SB	L	110	114	103	19.9	*B*
	T	570	573	101	19.7	*B*
	R	140	142	101	5.4	*A*
	Subtotal	820	829	101	17.3	*B*
EB	L	40	36	89	24.4	*C*
	T	60	57	95	34.7	*C*
	R	70	70	100	9.1	*A*
	Subtotal	170	163	96	21.4	*C*
WB	L	200	197	98	29.0	*C*
	T	200	203	101	29.0	*C*
	R	260	260	100	18.1	*B*
	Subtotal	660	660	100	24.7	*C*
Total		2,362	2,365	100	19.3	*B*

Intersection: North County Blvd & 1800 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	670	669	100	0.6	*A*
	R	10	10	98	0.6	*A*
	Subtotal	680	679	100	0.6	*A*
SB	L	20	18	91	3.4	*A*
	T	848	851	100	0.5	*A*
	Subtotal	868	869	100	0.6	*A*
WB	L	30	30	100	13.0	*B*
	R	40	43	108	6.0	*A*
	Subtotal	***70***	***73***	***104***	***8.9***	***A***
Total		1,618	1,621	100	0.9	*A*

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.1	0.0	0.3	0.3	0.2	0.1	0.5	0.0	0.1	0.6	0.1
Delay / Veh (s)	25.0	32.9	8.9	23.5	25.7	13.6	15.1	15.5	3.2	16.0	16.2	5.1
Vehicles Entered	6	9	12	42	48	57	24	123	24	27	142	35
Vehicles Exited	6	9	11	44	49	59	24	122	24	26	138	35
Hourly Exit Rate	24	36	44	176	196	236	96	488	96	104	552	140
Input Volume	27	40	47	178	178	231	97	496	97	107	553	136
% of Volume	89	90	94	99	110	102	99	98	99	97	100	103

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	All
Total Delay (hr)	2.4
Delay / Veh (s)	16.1
Vehicles Entered	549
Vehicles Exited	547
Hourly Exit Rate	2188
Input Volume	2187
% of Volume	100

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.3	0.1	0.7	0.6	0.6	0.2	0.8	0.0	0.2	1.1	0.1
Delay / Veh (s)	22.0	35.4	9.5	36.9	36.1	26.3	23.2	22.3	4.6	26.9	26.6	6.6
Vehicles Entered	19	28	38	65	66	88	30	136	25	30	155	39
Vehicles Exited	17	27	37	62	63	85	30	133	25	30	152	39
Hourly Exit Rate	68	108	148	248	252	340	120	532	100	120	608	156
Input Volume	80	120	140	267	267	347	109	555	109	120	620	152
% of Volume	85	90	106	93	94	98	110	96	92	100	98	103

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	All
Total Delay (hr)	4.9
Delay / Veh (s)	24.8
Vehicles Entered	719
Vehicles Exited	700
Hourly Exit Rate	2800
Input Volume	2886
% of Volume	97

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.1	0.0	0.4	0.4	0.2	0.1	0.6	0.0	0.1	0.7	0.1
Delay / Veh (s)	30.1	34.1	8.5	28.0	27.8	15.5	16.5	18.0	3.8	18.3	18.5	5.1
Vehicles Entered	6	11	10	44	45	57	22	126	25	27	139	36
Vehicles Exited	7	11	10	47	48	59	22	130	24	27	145	37
Hourly Exit Rate	28	44	40	188	192	236	88	520	96	108	580	148
Input Volume	27	40	47	178	178	231	97	496	97	107	553	136
% of Volume	104	110	85	106	108	102	91	105	99	101	105	109

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	All
Total Delay (hr)	2.8
Delay / Veh (s)	18.3
Vehicles Entered	548
Vehicles Exited	567
Hourly Exit Rate	2268
Input Volume	2187
% of Volume	104

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.1	0.0	0.3	0.3	0.2	0.1	0.6	0.0	0.1	0.6	0.0
Delay / Veh (s)	24.2	35.3	8.6	23.9	24.1	13.1	14.1	16.9	3.6	17.9	16.7	4.5
Vehicles Entered	6	9	12	43	43	57	23	129	26	30	139	32
Vehicles Exited	6	9	12	43	43	57	22	131	26	30	138	32
Hourly Exit Rate	24	36	48	172	172	228	88	524	104	120	552	128
Input Volume	27	40	47	178	178	231	97	496	97	107	553	136
% of Volume	89	90	102	97	97	99	91	106	107	112	100	94

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	All
Total Delay (hr)	2.5
Delay / Veh (s)	16.4
Vehicles Entered	549
Vehicles Exited	549
Hourly Exit Rate	2196
Input Volume	2187
% of Volume	100

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.3	0.5	0.2	1.6	1.6	1.3	0.5	2.6	0.1	0.6	3.1	0.2
Delay / Veh (s)	24.4	34.7	9.1	29.0	29.0	18.1	17.7	18.3	3.8	19.9	19.7	5.4
Vehicles Entered	37	56	70	195	202	258	98	514	100	114	574	142
Vehicles Exited	36	57	70	197	203	260	98	515	100	114	573	142
Hourly Exit Rate	36	57	70	197	203	260	98	515	100	114	573	142
Input Volume	40	60	70	200	200	260	100	511	100	110	570	140
% of Volume	89	95	100	98	101	100	98	101	100	103	101	101

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	All
Total Delay (hr)	12.7
Delay / Veh (s)	19.3
Vehicles Entered	2360
Vehicles Exited	2365
Hourly Exit Rate	2365
Input Volume	2362
% of Volume	100

5: North County Blvd & 1800 North Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	14.1	5.3	0.5	0.5	2.9	0.5	0.9
Vehicles Entered	7	10	161	2	4	200	384
Vehicles Exited	7	10	161	2	4	201	385
Hourly Exit Rate	28	40	644	8	16	804	1540
Input Volume	29	39	651	10	19	796	1544
% of Volume	97	103	99	80	84	101	100

5: North County Blvd & 1800 North Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	13.7	7.6	0.7	0.8	3.1	0.5	1.1
Vehicles Entered	9	12	180	3	6	245	455
Vehicles Exited	9	12	179	4	6	245	455
Hourly Exit Rate	36	48	716	16	24	980	1820
Input Volume	33	43	728	11	22	1005	1842
% of Volume	109	112	98	145	109	98	99

5: North County Blvd & 1800 North Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	12.8	5.5	0.5	0.6	3.7	0.5	0.9
Vehicles Entered	7	11	158	2	4	208	390
Vehicles Exited	7	11	160	2	4	207	391
Hourly Exit Rate	28	44	640	8	16	828	1564
Input Volume	29	39	651	10	19	796	1544
% of Volume	97	113	98	80	84	104	101

5: North County Blvd & 1800 North Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	11.2	5.3	0.6	0.5	4.3	0.5	0.9
Vehicles Entered	7	10	170	2	4	198	391
Vehicles Exited	7	10	168	2	4	198	389
Hourly Exit Rate	28	40	672	8	16	792	1556
Input Volume	29	39	651	10	19	796	1544
% of Volume	97	103	103	80	84	99	101

5: North County Blvd & 1800 North Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.1	0.1	0.1	0.0	0.0	0.1	0.4
Delay / Veh (s)	13.0	6.0	0.6	0.6	3.4	0.5	0.9
Vehicles Entered	30	43	669	10	18	852	1622
Vehicles Exited	30	43	669	10	18	851	1621
Hourly Exit Rate	30	43	669	10	18	851	1621
Input Volume	30	40	670	10	20	848	1618
% of Volume	100	108	100	98	91	100	100

Total Network Performance By Interval

Interval Start	7:15	7:30	7:45	8:00	All
Total Delay (hr)	3.0	5.7	3.4	3.1	15.1
Delay / Veh (s)	19.0	28.3	21.3	19.4	22.4
Vehicles Entered	567	732	563	569	2429
Vehicles Exited	570	706	595	566	2437
Hourly Exit Rate	2280	2824	2380	2264	2437
Input Volume	10397	12937	10397	10397	11032
% of Volume	22	22	23	22	22

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	45	59	40	114	212	118	63	108	123	35	77	123
Average Queue (ft)	21	28	24	76	108	71	38	66	82	20	41	71
95th Queue (ft)	52	65	49	135	218	130	68	114	132	39	81	124
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	1		20	23	8						0
Queuing Penalty (veh)	0	0		82	93	29						0

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	146	55
Average Queue (ft)	91	28
95th Queue (ft)	139	58
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	70	125	100	120	514	119	104	151	160	49	111	194
Average Queue (ft)	40	66	44	95	269	89	59	100	107	24	58	121
95th Queue (ft)	75	133	95	144	582	141	111	158	168	50	116	195
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	2	11	0	33	33	18		0	0		0	2
Queuing Penalty (veh)	5	8	0	204	203	98		0	1		0	2

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	205	70
Average Queue (ft)	139	35
95th Queue (ft)	210	70
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	52	78	39	118	366	109	76	145	163	41	76	134
Average Queue (ft)	24	34	23	74	135	62	39	82	97	25	44	84
95th Queue (ft)	57	76	50	130	389	118	77	148	169	47	81	145
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	1	0	24	22	7		0	1			0
Queuing Penalty (veh)	0	0	0	100	89	24		0	1			0

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	154	55
Average Queue (ft)	104	28
95th Queue (ft)	164	60
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	46	63	51	112	201	110	60	135	166	74	83	138
Average Queue (ft)	20	30	26	71	92	64	34	78	95	28	45	76
95th Queue (ft)	51	69	55	124	199	119	62	139	169	75	82	143
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	2	0	22	21	7		0	0	0		0
Queuing Penalty (veh)	0	0	0	91	84	26		0	0	0		0

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	145	53
Average Queue (ft)	97	24
95th Queue (ft)	158	57
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	72	136	101	120	539	120	108	174	193	82	124	201
Average Queue (ft)	26	40	29	79	151	71	43	82	95	24	47	88
95th Queue (ft)	62	94	67	136	396	130	84	144	162	55	93	160
Link Distance (ft)	1025				1297			283	283			2201
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	1	3	0	25	25	10		0	0	0	0	1
Queuing Penalty (veh)	1	2	0	119	117	44		0	0	0	0	1

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	210	76
Average Queue (ft)	108	29
95th Queue (ft)	176	62
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	62	26
Average Queue (ft)	35	7
95th Queue (ft)	66	27
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #2

Movement	WB	SB	B2
Directions Served	LR	L	T
Maximum Queue (ft)	73	32	38
Average Queue (ft)	42	10	5
95th Queue (ft)	74	33	80
Link Distance (ft)	772		283
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: North County Blvd & 1800 North, Interval #3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	57	22
Average Queue (ft)	35	7
95th Queue (ft)	64	26
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	58	22
Average Queue (ft)	34	5
95th Queue (ft)	61	25
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, All Intervals

Movement	WB	SB	B2
Directions Served	LR	L	T
Maximum Queue (ft)	85	34	38
Average Queue (ft)	37	7	1
95th Queue (ft)	67	28	39
Link Distance (ft)	772		283
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty, Interval #1: 204
Network wide Queuing Penalty, Interval #2: 522
Network wide Queuing Penalty, Interval #3: 214
Network wide Queuing Penalty, Interval #4: 202
Network wide Queuing Penalty, All Intervals: 286

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Cedar Hills - Harts TIS
Analysis Period: *Future 2030 Plus Project*
Time Period: *a.m. Peak Hour* **Project #:** *UT12-333*

Intersection: North County Blvd & Cedar Hills Blvd
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	104	101	97	17.0	*B*
	T	528	531	101	17.3	*B*
	R	113	115	102	3.7	*A*
	Subtotal	745	747	100	15.2	*B*
SB	L	110	109	99	22.6	*C*
	T	587	585	100	18.3	*B*
	R	140	144	103	5.1	*A*
	Subtotal	837	838	100	16.6	*B*
EB	L	40	41	102	26.3	*C*
	T	60	58	97	38.7	*D*
	R	74	78	106	11.3	*B*
	Subtotal	174	177	102	23.8	*C*
WB	L	213	210	99	36.2	*D*
	T	200	203	101	35.3	*D*
	R	260	263	101	23.6	*C*
	Subtotal	673	676	100	31.0	*C*
Total		2,429	2,438	100	20.7	*C*

Intersection: North County Blvd & North Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	719	724	101	0.6	*A*
	R	10	12	117	0.1	*A*
	Subtotal	729	736	101	0.6	*A*
SB	L	25	25	101	6.9	*A*
	T	879	879	100	2.2	*A*
	Subtotal	904	904	100	2.3	*A*
WB	L	10	11	107	17.1	*C*
	R	25	25	101	5.7	*A*
	Subtotal	***35***	***36***	***103***	***9.2***	***A***
Total		1,668	1,676	100	1.7	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Cedar Hills - Harts TIS
Analysis Period: *Future 2030 Plus Project*
Time Period: *a.m. Peak Hour* **Project #:** *UT12-333*

Intersection: North County Blvd & Harts Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	706	712	101	0.4	*A*
	R	22	24	110	0.1	*A*
	Subtotal	728	736	101	0.4	*A*
SB	L	24	24	101	4.5	*A*
	T	836	834	100	0.3	*A*
	Subtotal	860	858	100	0.4	*A*
WB	L	22	23	106	15.0	*B*
	R	24	23	97	6.9	*A*
	Subtotal	***46***	***46***	***100***	***11.0***	***B***
Total		1,632	1,640	100	0.7	*A*

Intersection: North County Blvd & 1800 North
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	687	697	101	0.7	*A*
	R	10	11	107	0.6	*A*
	Subtotal	697	708	102	0.7	*A*
SB	L	20	20	101	3.3	*A*
	T	837	838	100	0.4	*A*
	Subtotal	857	858	100	0.5	*A*
WB	L	30	30	100	14.3	*B*
	R	40	39	98	6.2	*A*
	Subtotal	***70***	***69***	***99***	***9.7***	***A***
Total		1,624	1,635	101	1.0	*A*

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.1	0.0	0.4	0.3	0.2	0.1	0.6	0.0	0.1	0.6	0.0
Delay / Veh (s)	29.6	36.0	9.5	27.7	27.7	14.1	16.1	15.8	3.8	19.4	16.0	4.9
Vehicles Entered	6	9	13	47	44	54	27	128	31	27	139	34
Vehicles Exited	6	8	13	48	46	55	27	126	30	27	138	34
Hourly Exit Rate	24	32	52	192	184	220	108	504	120	108	552	136
Input Volume	27	40	49	189	178	231	101	512	110	107	570	136
% of Volume	89	80	106	102	103	95	107	98	109	101	97	100

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #1 7:15

Movement	All
Total Delay (hr)	2.6
Delay / Veh (s)	16.8
Vehicles Entered	559
Vehicles Exited	558
Hourly Exit Rate	2232
Input Volume	2250
% of Volume	99

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.2	0.3	0.1	0.9	0.8	0.9	0.2	0.9	0.0	0.2	1.0	0.1
Delay / Veh (s)	25.1	37.8	12.6	47.1	47.6	36.0	21.0	21.3	4.6	29.4	24.2	6.2
Vehicles Entered	22	28	38	71	65	93	27	146	28	29	158	40
Vehicles Exited	22	29	37	68	61	87	26	145	28	28	154	41
Hourly Exit Rate	88	116	148	272	244	348	104	580	112	112	616	164
Input Volume	80	120	148	284	267	347	113	575	123	120	638	152
% of Volume	110	97	100	96	91	100	92	101	91	93	97	108

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #2 7:30

Movement	All
Total Delay (hr)	5.6
Delay / Veh (s)	27.6
Vehicles Entered	745
Vehicles Exited	726
Hourly Exit Rate	2904
Input Volume	2967
% of Volume	98

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.1	0.0	0.5	0.5	0.4	0.1	0.6	0.0	0.2	0.7	0.0
Delay / Veh (s)	28.5	40.6	11.6	36.1	34.5	22.2	15.3	15.6	3.4	21.1	16.1	4.3
Vehicles Entered	6	11	14	44	48	58	22	130	28	26	145	36
Vehicles Exited	7	12	15	46	51	63	23	130	28	28	149	35
Hourly Exit Rate	28	48	60	184	204	252	92	520	112	112	596	140
Input Volume	27	40	49	189	178	231	101	512	110	107	570	136
% of Volume	104	120	122	97	115	109	91	102	102	105	105	103

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #3 7:45

Movement	All
Total Delay (hr)	3.1
Delay / Veh (s)	19.1
Vehicles Entered	568
Vehicles Exited	587
Hourly Exit Rate	2348
Input Volume	2250
% of Volume	104

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.1	0.0	0.4	0.3	0.2	0.1	0.6	0.0	0.2	0.7	0.0
Delay / Veh (s)	24.7	41.7	10.2	28.8	26.6	14.8	15.3	15.9	3.2	20.4	16.4	4.7
Vehicles Entered	6	9	13	47	45	58	25	131	28	27	142	34
Vehicles Exited	6	9	13	48	45	58	25	130	28	27	144	35
Hourly Exit Rate	24	36	52	192	180	232	100	520	112	108	576	140
Input Volume	27	40	49	189	178	231	101	512	110	107	570	136
% of Volume	89	90	106	102	101	100	99	102	102	101	101	103

1: North County Blvd & Cedar Hills Blvd Performance by movement Interval #4 8:00

Movement	All
Total Delay (hr)	2.7
Delay / Veh (s)	17.0
Vehicles Entered	565
Vehicles Exited	568
Hourly Exit Rate	2272
Input Volume	2250
% of Volume	101

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.3	0.6	0.2	2.1	2.0	1.7	0.5	2.6	0.1	0.7	3.0	0.2
Delay / Veh (s)	26.3	38.7	11.3	36.2	35.3	23.6	17.0	17.3	3.7	22.6	18.3	5.1
Vehicles Entered	41	57	78	210	203	262	101	534	115	109	584	144
Vehicles Exited	41	58	78	210	203	263	101	531	115	109	585	144
Hourly Exit Rate	41	58	78	210	203	263	101	531	115	109	585	144
Input Volume	40	60	74	213	200	260	104	528	113	110	587	140
% of Volume	102	97	106	99	101	101	97	101	102	99	100	103

1: North County Blvd & Cedar Hills Blvd Performance by movement Entire Run

Movement	All
Total Delay (hr)	14.0
Delay / Veh (s)	20.7
Vehicles Entered	2438
Vehicles Exited	2438
Hourly Exit Rate	2438
Input Volume	2429
% of Volume	100

2: North County Blvd & North Access Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Delay / Veh (s)	30.1	5.4	0.6	0.1	6.3	2.1	1.7
Vehicles Entered	2	7	177	3	8	203	400
Vehicles Exited	2	7	178	3	8	203	401
Hourly Exit Rate	8	28	712	12	32	812	1604
Input Volume	10	24	698	10	24	824	1590
% of Volume	80	117	102	120	133	99	101

2: North County Blvd & North Access Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Delay / Veh (s)	19.3	7.2	0.7	0.1	7.9	2.4	1.9
Vehicles Entered	3	5	196	4	6	254	468
Vehicles Exited	3	5	195	4	6	254	467
Hourly Exit Rate	12	20	780	16	24	1016	1868
Input Volume	11	27	782	11	27	1043	1901
% of Volume	109	74	100	145	89	97	98

2: North County Blvd & North Access Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Delay / Veh (s)	12.8	7.1	0.6	0.1	7.6	2.2	1.7
Vehicles Entered	3	6	174	3	6	213	405
Vehicles Exited	3	6	174	3	5	213	404
Hourly Exit Rate	12	24	696	12	20	852	1616
Input Volume	10	24	698	10	24	824	1590
% of Volume	120	100	100	120	83	103	102

2: North County Blvd & North Access Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Delay / Veh (s)	10.5	4.5	0.6	0.1	6.2	2.1	1.6
Vehicles Entered	3	7	177	2	6	209	404
Vehicles Exited	3	7	177	2	6	208	403
Hourly Exit Rate	12	28	708	8	24	832	1612
Input Volume	10	24	698	10	24	824	1590
% of Volume	120	117	101	80	100	101	101

2: North County Blvd & North Access Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.5	0.8
Delay / Veh (s)	17.1	5.7	0.6	0.1	6.9	2.2	1.7
Vehicles Entered	10	26	723	12	25	879	1675
Vehicles Exited	11	25	724	12	25	879	1676
Hourly Exit Rate	11	25	724	12	25	879	1676
Input Volume	10	25	719	10	25	879	1668
% of Volume	107	101	101	117	101	100	100

3: North County Blvd & Harts Access Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	12.6	6.4	0.4	0.2	3.8	0.3	0.7
Vehicles Entered	6	6	173	5	6	200	396
Vehicles Exited	6	6	174	5	6	201	398
Hourly Exit Rate	24	24	696	20	24	804	1592
Input Volume	21	23	685	21	23	811	1584
% of Volume	114	104	102	95	104	99	101

3: North County Blvd & Harts Access Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	18.7	7.8	0.4	0.1	6.0	0.3	0.8
Vehicles Entered	6	6	194	8	6	222	442
Vehicles Exited	6	6	194	8	5	222	441
Hourly Exit Rate	24	24	776	32	20	888	1764
Input Volume	24	26	767	24	26	909	1776
% of Volume	100	92	101	133	77	98	99

3: North County Blvd & Harts Access Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	14.1	9.2	0.4	0.0	4.2	0.3	0.7
Vehicles Entered	6	6	172	5	6	208	403
Vehicles Exited	6	5	172	5	6	208	402
Hourly Exit Rate	24	20	688	20	24	832	1608
Input Volume	21	23	685	21	23	811	1584
% of Volume	114	87	100	95	104	103	102

3: North County Blvd & Harts Access Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	12.2	4.6	0.3	0.1	5.0	0.3	0.6
Vehicles Entered	6	5	173	6	7	204	401
Vehicles Exited	6	6	173	5	6	203	399
Hourly Exit Rate	24	24	692	20	24	812	1596
Input Volume	21	23	685	21	23	811	1584
% of Volume	114	104	101	95	104	100	101

3: North County Blvd & Harts Access Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.1	0.3
Delay / Veh (s)	15.0	6.9	0.4	0.1	4.5	0.3	0.7
Vehicles Entered	23	23	712	24	24	832	1638
Vehicles Exited	23	23	712	24	24	834	1640
Hourly Exit Rate	23	23	712	24	24	834	1640
Input Volume	22	24	706	22	24	836	1632
% of Volume	106	97	101	110	101	100	100

5: North County Blvd & 1800 North Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	10.3	5.8	0.7	0.7	2.9	0.4	0.8
Vehicles Entered	6	10	169	2	3	203	393
Vehicles Exited	5	9	169	3	3	202	391
Hourly Exit Rate	20	36	676	12	12	808	1564
Input Volume	29	39	667	10	19	813	1577
% of Volume	69	92	101	120	63	99	99

5: North County Blvd & 1800 North Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	19.6	7.8	0.7	0.5	3.8	0.4	1.1
Vehicles Entered	8	11	191	3	7	222	442
Vehicles Exited	8	11	190	3	7	224	443
Hourly Exit Rate	32	44	760	12	28	896	1772
Input Volume	33	43	747	11	22	910	1766
% of Volume	97	102	102	109	127	98	100

5: North County Blvd & 1800 North Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	13.2	6.1	0.6	0.4	2.3	0.5	1.0
Vehicles Entered	8	9	169	3	6	208	403
Vehicles Exited	8	9	169	3	6	207	402
Hourly Exit Rate	32	36	676	12	24	828	1608
Input Volume	29	39	667	10	19	813	1577
% of Volume	110	92	101	120	126	102	102

5: North County Blvd & 1800 North Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	13.1	5.7	0.6	0.4	4.1	0.4	0.9
Vehicles Entered	8	9	168	3	4	205	397
Vehicles Exited	8	10	169	3	4	206	400
Hourly Exit Rate	32	40	676	12	16	824	1600
Input Volume	29	39	667	10	19	813	1577
% of Volume	110	103	101	120	84	101	101

5: North County Blvd & 1800 North Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.1	0.1	0.1	0.0	0.0	0.1	0.4
Delay / Veh (s)	14.3	6.2	0.7	0.6	3.3	0.4	1.0
Vehicles Entered	30	39	697	11	20	837	1634
Vehicles Exited	30	39	697	11	20	838	1635
Hourly Exit Rate	30	39	697	11	20	838	1635
Input Volume	30	40	687	10	20	837	1624
% of Volume	100	98	101	107	101	100	101

Total Network Performance By Interval

Interval Start	7:15	7:30	7:45	8:00	All
Total Delay (hr)	3.3	6.6	3.8	3.4	17.0
Delay / Veh (s)	19.9	30.8	22.2	20.1	23.7
Vehicles Entered	592	777	607	600	2579
Vehicles Exited	590	757	631	604	2582
Hourly Exit Rate	2360	3028	2524	2416	2582
Input Volume	10930	13091	10930	10930	11470
% of Volume	22	23	23	22	23

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	41	44	37	118	246	115	86	118	134	45	92	141
Average Queue (ft)	16	21	19	86	124	69	47	75	89	25	43	69
95th Queue (ft)	43	47	42	133	266	132	88	128	143	50	89	132
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	0		30	23	6					0	0
Queuing Penalty (veh)	0	0		122	98	22					0	0

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	167	57
Average Queue (ft)	94	27
95th Queue (ft)	155	60
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	85	108	78	120	706	120	80	167	175	41	100	173
Average Queue (ft)	45	65	38	101	378	94	49	112	121	23	58	113
95th Queue (ft)	91	112	78	146	871	148	85	179	193	44	111	183
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)					0							
Queuing Penalty (veh)					0							
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	4	7	1	40	37	22		1	1		0	1
Queuing Penalty (veh)	12	5	1	244	233	122		1	2		0	1

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	189	65
Average Queue (ft)	134	34
95th Queue (ft)	201	76
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	42	72	44	116	559	119	72	131	143	45	85	148
Average Queue (ft)	19	31	22	82	198	78	37	74	86	23	47	82
95th Queue (ft)	51	78	46	136	598	140	70	131	144	43	85	157
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	0	1	0	25	28	13		0	0			0
Queuing Penalty (veh)	0	0	0	104	118	46		0	0			0

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	171	51
Average Queue (ft)	98	27
95th Queue (ft)	172	55
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	37	60	32	120	258	113	69	123	144	40	70	147
Average Queue (ft)	17	27	18	86	129	64	38	80	88	22	42	81
95th Queue (ft)	45	65	39	141	304	116	72	132	146	46	71	150
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)		1	0	25	21	7			0			1
Queuing Penalty (veh)		0	0	103	89	25			0			1

Intersection: 1: North County Blvd & Cedar Hills Blvd, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	169	56
Average Queue (ft)	98	27
95th Queue (ft)	176	58
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	86	116	79	120	756	120	102	173	179	52	117	188
Average Queue (ft)	24	36	24	89	207	76	43	85	96	23	48	87
95th Queue (ft)	63	86	55	141	584	137	80	149	161	46	91	161
Link Distance (ft)	1025				1297			288	288			2201
Upstream Blk Time (%)					0							
Queuing Penalty (veh)					0							
Storage Bay Dist (ft)		75	75	50		50	180			180	170	
Storage Blk Time (%)	1	2	0	30	27	12		0	0		0	0
Queuing Penalty (veh)	3	2	0	143	134	54		0	0		0	1

Intersection: 1: North County Blvd & Cedar Hills Blvd, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	218	82
Average Queue (ft)	106	29
95th Queue (ft)	181	63
Link Distance (ft)	2201	2201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: North County Blvd & North Access, Interval #1

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	44	50	8
Average Queue (ft)	24	20	1
95th Queue (ft)	52	59	16
Link Distance (ft)	352	288	288
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: North County Blvd & North Access, Interval #2

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	49	95	87
Average Queue (ft)	23	24	14
95th Queue (ft)	51	94	85
Link Distance (ft)	352	288	288
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: North County Blvd & North Access, Interval #3

Movement	WB	NB	SB	SB
Directions Served	LR	TR	LT	T
Maximum Queue (ft)	42	5	73	40
Average Queue (ft)	26	1	20	6
95th Queue (ft)	51	11	71	44
Link Distance (ft)	352	174	288	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: North County Blvd & North Access, Interval #4

Movement	WB	SB	SB
Directions Served	LR	LT	T
Maximum Queue (ft)	40	41	9
Average Queue (ft)	22	12	1
95th Queue (ft)	50	44	20
Link Distance (ft)	352	288	288
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: North County Blvd & North Access, All Intervals

Movement	WB	NB	SB	SB
Directions Served	LR	TR	LT	T
Maximum Queue (ft)	58	5	114	106
Average Queue (ft)	24	0	19	5
95th Queue (ft)	51	5	69	48
Link Distance (ft)	352	174	288	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: North County Blvd & Harts Access, Interval #1

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	54	2	33
Average Queue (ft)	28	0	13
95th Queue (ft)	59	5	38
Link Distance (ft)	344	168	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			50
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 3: North County Blvd & Harts Access, Interval #2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	67	33
Average Queue (ft)	32	13
95th Queue (ft)	70	38
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

Intersection: 3: North County Blvd & Harts Access, Interval #3

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	48	3	31
Average Queue (ft)	28	0	10
95th Queue (ft)	59	6	34
Link Distance (ft)	344	168	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			50
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 3: North County Blvd & Harts Access, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	46	37
Average Queue (ft)	26	12
95th Queue (ft)	55	39
Link Distance (ft)	344	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 3: North County Blvd & Harts Access, All Intervals

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	77	5	42
Average Queue (ft)	29	0	12
95th Queue (ft)	61	4	37
Link Distance (ft)	344	168	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			50
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 5: North County Blvd & 1800 North, Interval #1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	57	22
Average Queue (ft)	31	6
95th Queue (ft)	60	25
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	69	31
Average Queue (ft)	41	11
95th Queue (ft)	71	35
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	61	24
Average Queue (ft)	35	7
95th Queue (ft)	63	28
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	61	28
Average Queue (ft)	35	7
95th Queue (ft)	70	28
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: North County Blvd & 1800 North, All Intervals

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	83	34
Average Queue (ft)	36	8
95th Queue (ft)	67	29
Link Distance (ft)	772	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 241
Network wide Queuing Penalty, Interval #2: 622
Network wide Queuing Penalty, Interval #3: 269
Network wide Queuing Penalty, Interval #4: 218
Network wide Queuing Penalty, All Intervals: 338

HALES ENGINEERING
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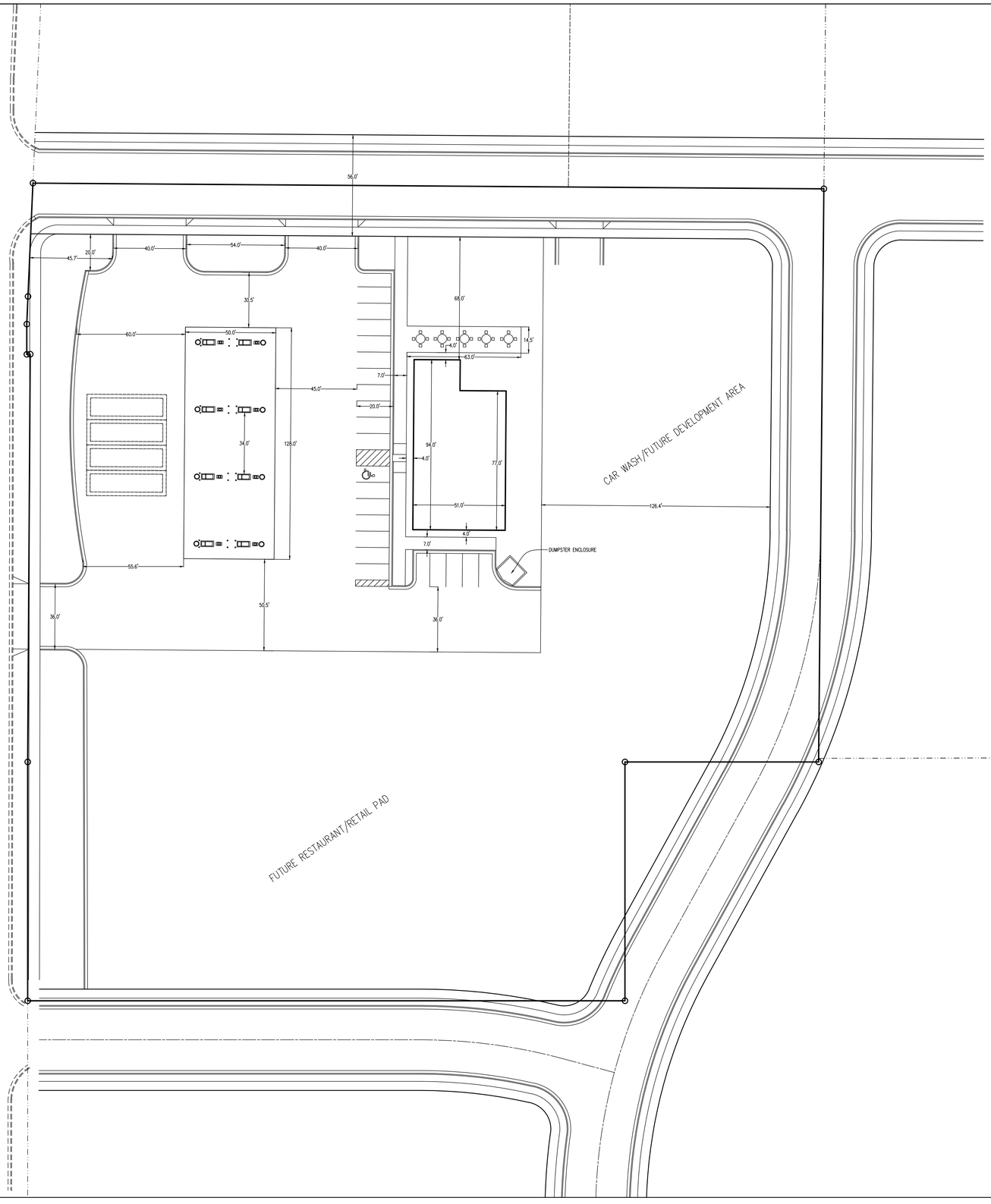
APPENDIX C

Site Plan



30 15 0 30 60 90

Scale 1" = 30'

Developer: Dave Jardine
P.O. Box 418
American Fork, UT 84003
Phone: 801-756-9681

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201, American Fork, UT 84003
P: (801) 756-4504; F: (801) 756-4511

HARTS GAS STATION

CEDAR HILLS UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

CONCEPT PLAN

Scale: 1"=30'
Date: 01/30/12

1 OF 1

HALES ENGINEERING
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APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Cedar Hills - Harts TIS

Time Period: a.m. Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT12-333

Intersection	Time Period	EB			NB			SB			WB			
		L	R	T	L	R	T	L	R	T	L	LR	R	T
North County Blvd & 1800 North	Existing 2012 Background	--	--	--	--	--	--	18	--	--	--	53	--	--
North County Blvd & Cedar Hills Blvd	Existing 2012 Background	56	47	79	53	34	85	74	53	83	102	--	115	270

SimTraffic Queueing Report

Project: Cedar Hills - Harts TIS

Time Period: a.m. Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT12-333

Intersection	Time Period	EB			NB			SB				WB			
		L	R	T	L	R	T	L	LT	R	T	L	LR	R	T
North County Blvd & 1800 North	Existing 2012 Plus Project	--	--	--	--	--	--	16	--	--	--	--	55	--	--
North County Blvd & Cedar Hills Blvd	Existing 2012 Plus Project	64	32	81	49	36	93	83	--	43	92	109	--	116	227
North County Blvd & Harts Access	Existing 2012 Plus Project	--	--	--	--	--	--	28	--	--	--	--	51	--	--
North County Blvd & North Access	Existing 2012 Plus Project	--	--	--	--	--	--	--	33	--	--	--	49	--	--

SimTraffic Queueing Report
Project: Cedar Hills - Harts TIS
Time Period: a.m. Peak Hour
95th Percentile Queue Length (feet)

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Project #: UT12-333

Intersection	Time Period	B2	EB			NB			SB			WB			
		T	L	R	T	L	R	T	L	R	T	L	LR	R	T
North County Blvd & 1800 North	Future 2030 Background	39	--	--	--	--	--	--	28	--	--	--	67	--	--
North County Blvd & Cedar Hills Blvd	Future 2030 Background	--	62	67	94	84	55	153	93	62	168	136	--	130	396

SimTraffic Queueing Report
Project: Cedar Hills - Harts TIS
Time Period: a.m. Peak Hour
95th Percentile Queue Length (feet)

HALES ENGINEERING
innovative transportation solutions

Project #: UT12-333

Intersection	Time Period	EB			NB				SB				WB			
		L	R	T	L	R	T	TR	L	LT	R	T	L	LR	R	T
North County Blvd & 1800 North	Future 2030 Plus Project	--	--	--	--	--	--	--	29	--	--	--	--	67	--	--
North County Blvd & Cedar Hills Blvd	Future 2030 Plus Project	63	55	86	80	46	155	--	91	--	63	171	141	--	137	584
North County Blvd & Harts Access	Future 2030 Plus Project	--	--	--	--	--	--	4	37	--	--	--	--	61	--	--
North County Blvd & North Access	Future 2030 Plus Project	--	--	--	--	--	--	5	--	69	--	48	--	51	--	--

CITY OF CEDAR HILLS

TO:	Mayor Richardson & City Council
FROM:	Konrad Hildebrandt, City Manager
DATE:	4/25/2012

City Council
Memorandum

SUBJECT:	FY 2013 Budget Presentation
APPLICANT PRESENTATION:	
STAFF PRESENTATION:	Rebecca Tehero, Finance Director

BACKGROUND AND FINDINGS:

On or before the first regularly scheduled meeting of May, a tentative budget must be submitted to the City Council.

PREVIOUS LEGISLATIVE ACTION:

FISCAL IMPACT:

SUPPORTING DOCUMENTS:

- General Fund Budget
- Capital Projects Fund Budget
- Motor Pool Fund Budget
- Water & Sewer Fund Budget
- Community Recreation Fund Budget

RECOMMENDATION:

To review and adopt the TENTATIVE fiscal year 2013 budget. In addition, a public hearing must be scheduled prior to adoption of the final budget.

MOTION:

To approve the tentative fiscal year 2013 budget and set a public hearing for the final budget.

GENERAL FUND REVENUES

TAX REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-31-100	Property Tax	$675,440	$652,210	$630,000	$650,000	$20,000
10-31-150	Motor Vehicle Tax	$117,807	$115,089	$120,000	$115,000	($5,000)
10-31-200	Delinquent Tax	$75,289	$62,289	$75,000	$70,000	($5,000)
10-31-250	Penalty & Interest	$3,897	$3,658	$4,000	$4,000	$0
10-31-275	Fees in Lieu of Taxes	$3,691	$2,113	$2,500	$5,000	$2,500
10-31-300	Sales & Use Tax	$902,522	$954,063	$1,000,000	$1,050,000	$50,000
10-31-350	CARE Tax	$30,527	$33,308	$35,000	$35,000	$0
10-31-400	Franchise Tax	$334,355	$358,995	$360,000	$365,000	$5,000
10-31-500	Telecom Tax	$112,395	$112,640	$125,000	$120,000	($5,000)
		$2,255,922	**$2,294,365**	**$2,351,500**	**$2,414,000**	**$62,500**

LICENSES & PERMITS		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-32-190	Business License	$21,060	$21,840	$22,000	$22,000	$0
10-32-200	Building Permits	$59,633	$29,330	$50,000	$80,000	$30,000
10-32-210	Plan Check Fees	$24,736	$16,224	$20,000	$35,000	$15,000
10-32-260	Miscellaneous Inspection Fees	$3,141	$2,852	$3,000	$5,000	$2,000
		$108,570	**$70,245**	**$95,000**	**$142,000**	**$47,000**

INTERGOVERNMENTAL REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-33-400	LPPSD Rent	$16,200	$16,200	$36,200	$35,000	($1,200)
10-33-500	Class C Roads Fund	$241,114	$257,351	$260,000	$260,000	$0
10-33-600	State Liquor Tax Allotment	$5,568	$5,733	$5,950	$5,000	($950)
		$262,882	**$279,284**	**$302,150**	**$300,000**	**($2,150)**

CHARGES FOR SERVICES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-34-110	Garbage Fees	$356,546	$356,662	$355,000	$360,000	$5,000
10-34-120	Recycling Fees	$45,695	$48,050	$50,000	$50,000	$0
10-34-300	Application & Processing Fees	$200	$0	$0	$0	$0
10-34-350	Zoning Violation Fees	$4,955	$5,174	$0	$0	$0
10-34-360	Weed Abatement Fees	$0	$606	$3,000	$3,000	$0
10-34-450	Paramedic Fees	$0	$57,456	$175,000	$180,000	$5,000
		$407,395	**$467,949**	**$583,000**	**$593,000**	**$10,000**

RECREATION & CULTURE REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-35-100	Festival Income	$11,466	$11,160	$25,000	$15,000	($10,000)
10-35-110	Recreation Programs	$33,923	$56,372	$60,000	$100,000	$40,000
10-35-120	Other Recreation Revenue	$50	$851	$0	$0	$0
		$45,439	**$68,383**	**$85,000**	**$115,000**	**$30,000**

MISCELLANEOUS REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-36-100	Interest Income	$7,887	$4,118	$10,000	$5,000	($5,000)
10-34-200	Penalty Fees	$5,275	$3,261	$2,000	$1,000	($1,000)
10-36-800	Use of Class C Roads Fund	$0	$0	$131,350	$140,000	$8,650
10-36-802	Use of Fund Balance	$0	$0	$20,000	$0	($20,000)
10-36-900	Other Income	$30,181	$38,552	$20,000	$25,000	$5,000
		$43,343	**$45,931**	**$183,350**	**$171,000**	**($12,350)**

GRAND TOTALS						
		$3,123,552	**$3,226,157**	**$3,600,000**	**$3,735,000**	**$135,000**

GENERAL FUND EXPENDITURES

GENERAL GOVERNMENT EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-40-200	Materials & Supplies	$8,071	$11,662	$12,000	$12,000	$0
10-40-210	Dues & Subscriptions	$0	$0	$10,000	$10,000	$0
10-40-211	Education & Training	$0	$0	$3,000	$3,500	$500
10-40-220	Newsletter/Utility Billing	$19,706	$19,606	$22,000	$22,000	$0
10-40-221	Legal Advertising	$2,386	$1,913	$4,000	$4,000	$0
10-40-240	Computer/IT Expenses	$13,840	$22,406	$30,000	$22,000	($8,000)
10-40-250	Repairs & Maintenance (PSB)	$10,276	$11,725	$12,500	$17,500	$5,000
10-40-260	Office Equipment	$8,590	$6,977	$20,000	$10,000	($10,000)
10-40-280	Utilities	$10,473	$18,488	$15,000	$15,000	$0
10-40-281	Postage	$2,174	$2,956	$2,500	$2,500	$0
10-40-290	Communications/Telephone	$5,418	$8,602	$18,000	$15,000	($3,000)
10-40-305	Legal Services	$69,472	$52,517	$115,000	$75,000	($40,000)
10-40-315	Auditing Services	$31,000	$19,500	$20,500	$24,000	$3,500
10-40-330	Professional/Technical	$29,117	$60,473	$25,000	$25,000	$0
10-40-331	Decisions Survey	$0	$0	$0	$10,000	$10,000
10-40-350	Other Events	$0	$0	$0	$3,000	$3,000
10-40-510	Insurance	$16,653	$17,230	$25,000	$35,000	$10,000
10-40-975	Bad Debt	$18,310	$5,063	$2,500	$2,000	($500)
		$245,486	**$259,117**	**$337,000**	**$307,500**	**($29,500)**

MAYOR/COUNCIL EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-41-110	Salary & Wages (FT)	$49,200	$49,200	$49,200	$49,200	$0
10-41-115	Planning Commission	$2,030	$3,050	$4,200	$3,900	($300)
10-41-150	Employee Benefits	$3,972	$4,264	$4,850	$5,000	$150
10-41-200	Materials & Supplies	$1,482	$60	$1,000	$1,000	$0
10-41-211	Education & Training	$2,651	$5,219	$5,500	$5,500	$0
10-41-290	Communications/Telephone	$5,212	$5,400	$5,400	$5,400	$0
		$64,547	**$67,192**	**$70,150**	**$70,000**	**($150)**

ADMINISTRATIVE SERVICES EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-44-110	Salary & Wages (FT)	$277,881	$146,909	$211,300	$180,000	($31,300)
10-44-111	Overtime	$410	$499	$700	$750	$50
10-44-120	Salary & Wages (PT)	$14,291	$3,506	$26,450	$14,000	($12,450)
10-44-150	Employee Benefits	$118,253	$65,182	$108,350	$98,750	($9,600)
10-44-200	Materials & Supplies	$2,900	$318	$1,000	$1,000	$0
10-44-210	Dues & Subscriptions	$2,142	$1,512	$1,500	$2,000	$500
10-44-211	Education & Training	$6,029	$1,743	$4,000	$5,000	$1,000
10-44-290	Communications/Telephone	$1,217	$1,166	$1,500	$1,500	$0
		$423,123	**$220,836**	**$354,800**	**$303,000**	**($51,800)**

ADMINISTRATIVE SERVICES - RECORDER		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
10-45-110	Salary & Wages (FT)	$0	$42,309	$45,450	$43,750	($1,700)
10-45-111	Overtime	$0	$45	$750	$750	($0)
10-45-120	Salary & Wages (PT)	$0	$14,994	$4,350	$0	($4,350)
10-45-150	Employee Benefits	$0	$24,404	$24,350	$25,500	$1,150
10-45-200	Materials & Supplies	$0	$1,011	$1,000	$1,500	$500
10-45-210	Dues & Subscriptions	$0	$567	$700	$400	($300)
10-45-211	Education & Training	$0	$1,772	$3,000	$2,500	($500)
10-45-215	Contract Labor	$1,855	$2,355	$3,250	$3,250	$0
10-45-250	City Code	$2,822	$2,833	$2,500	$2,500	$0

10-45-300	Document Imaging	$1,049	$1,049	$1,050	$1,050	$0
10-45-350	Other Events	$0	$3,125	$4,000	$0	($4,000)
10-45-400	Election Expenses	$8,686	$0	$10,000	$0	($10,000)
		$14,412	**$94,464**	**$100,400**	**$81,200**	**($19,200)**

FINANCE DEPARTMENT EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-50-110	Salary & Wages (FT)	$0	$98,653	$93,900	$100,000	$6,100
10-50-111	Overtime	$0	$0	$1,000	$1,000	$0
10-50-120	Salary & Wages (PT)	$0	$0	$0	$12,750	$12,750
10-50-150	Employee Benefits	$0	$49,252	$41,450	$60,250	$18,800
10-50-200	Materials & Supplies	$0	$1,007	$1,000	$1,500	$500
10-50-210	Dues & Subscriptions	$0	$500	$650	$500	($150)
10-50-211	Education & Training	$0	$2,186	$3,000	$2,500	($500)
		$0	**$151,598**	**$141,000**	**$178,500**	**$37,500**

PUBLIC SAFETY EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-55-300	Fire Services	$198,699	$385,440	$490,000	$620,000	$130,000
10-55-400	Police Services	$357,238	$369,728	$350,000	$362,500	$12,500
10-55-450	Dispatch Fees	$0	$0	$32,500	$35,000	$2,500
10-55-500	Crossing Guard Expenses	$14,330	$14,245	$16,250	$16,500	$250
10-55-600	Animal Control	$4,965	$5,742	$5,000	$5,000	$0
10-55-975	Bad Debt - Paramedic Fee	$0	$300	$0	$1,000	$1,000
		$575,232	**$775,455**	**$893,750**	**$1,040,000**	**$146,250**

BUILDING & ZONING EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-60-110	Salary & Wages (FT)	$83,644	$72,030	$46,100	$78,000	$31,900
10-60-111	Overtime	$0	$0	$600	$0	($600)
10-60-150	Employee Benefits	$38,733	$32,450	$22,550	$41,750	$19,200
10-60-200	Materials & Supplies	$163	$68	$1,000	$1,000	$0
10-60-210	Dues & Subscriptions	$1,076	$565	$1,000	$1,000	$0
10-60-211	Education & Training	$1,175	$1,177	$2,000	$2,000	$0
10-60-265	Tools & Equipment	$91	$100	$500	$500	$0
10-60-290	Communications/Telephone	$550	$552	$750	$750	$0
		$125,433	**$106,941**	**$74,500**	**$125,000**	**$50,500**

PUBLIC WORKS EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-61-110	Salary & Wages (FT)	$194,954	$110,558	$124,650	$129,000	$4,350
10-61-111	Overtime	$393	$604	$2,700	$3,000	$300
10-61-120	Salary & Wages (PT)	$2,477	$2,182	$5,750	$6,000	$250
10-61-150	Employee Benefits	$103,354	$64,482	$74,750	$78,500	$3,750
10-61-200	Materials & Supplies	$2,845	$8,213	$8,000	$5,000	($3,000)
10-61-210	Dues & Subscriptions	$215	$318	$500	$500	$0
10-61-211	Education & Training	$1,721	$1,312	$2,000	$2,000	$0
10-61-250	Repairs & Maintenance (PWB)	$7,636	$9,461	$7,000	$10,000	$3,000
10-61-265	Tools & Equipment	$4,476	$2,748	$9,500	$7,500	($2,000)
10-61-280	Utilities (PWB)	$0	$0	$5,000	$5,000	$0
10-61-290	Communications/Telephone	$2,128	$1,360	$2,000	$2,000	$0
10-61-310	Engineering Services	$2,844	$446	$2,000	$2,000	$0
		$323,043	**$201,684**	**$243,850**	**$250,500**	**$6,650**

STREETS EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-62-410	Street Light Operation	$50,601	$34,466	$40,000	$30,000	($10,000)

10-62-415	Street Light Maintenance	$0	$0	$0	$20,000	$20,000
10-62-420	Signs	$20,632	$13,352	$20,000	$20,000	$0
10-62-430	Weed Control	$2,467	$3,424	$3,000	$3,000	$0
10-62-440	Streets Expense	$137,568	$375,706	$250,000	$250,000	$0
10-62-450	Snow Removal	$42,314	$29,011	$25,000	$25,000	$0
10-62-460	Street Sweeping	$7,540	$4,861	$10,000	$10,000	$0
10-62-470	Sidewalk Maintenance	$20,056	$41,201	$45,000	$50,000	$5,000
		$281,177	**$502,022**	**$393,000**	**$408,000**	**$15,000**

SOLID WASTE EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-63-300	Solid Waste Services	$285,454	$284,413	$275,000	$285,000	$10,000
10-63-400	Recycling	$49,028	$49,679	$45,000	$50,000	$5,000
10-63-975	Bad Debt	$4,744	$2,113	$4,250	$2,250	($2,000)
		$339,226	**$336,205**	**$324,250**	**$337,250**	**$13,000**

PARKS EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-64-240	Park Supplies & Maintenance	$118,870	$126,501	$130,000	$140,000	$10,000
		$118,870	**$126,501**	**$130,000**	**$140,000**	**$10,000**

COMMUNITY SERVICES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-65-110	Salary & Wages (FT)	$37,229	$37,461	$56,550	$42,000	($14,550)
10-65-111	Overtime	$72	$437	$550	$1,000	$450
10-65-120	Salary & Wages (PT)	$5,950	$7,466	$17,100	$21,500	$4,400
10-65-150	Employee Benefits	$13,726	$15,942	$34,450	$32,000	($2,450)
10-65-200	Materials & Supplies	$0	$739	$1,000	$1,000	$0
10-65-210	Dues & Subscriptions	$50	$50	$250	$200	($50)
10-65-211	Education & Training	$1,490	$0	$1,500	$1,500	$0
10-65-290	Communications/Telephone	$0	$0	$1,000	$1,000	$0
10-65-300	Recreation Expenses	$294	$427	$0	$0	$0
10-65-400	Recreation Programs	$19,181	$41,277	$50,000	$85,000	$35,000
10-65-401	Recreation Equipment	$0	$0	$20,000	$0	($20,000)
10-65-500	Library Expenses	$14,000	$13,600	$14,000	$14,000	$0
10-65-600	Family Festival Celebration	$39,251	$43,671	$50,000	$50,000	$0
10-65-601	Other Events	$10,278	$891	$2,000	$2,000	$0
10-65-605	Youth City Council	$2,358	$2,620	$2,500	$3,000	$500
		$143,880	**$164,583**	**$250,900**	**$254,200**	**$3,300**

OTHER USES OF FUNDS		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
10-69-910	Transfer to Capital Projects Fund	$1,026,067	$95,177	$154,250	$120,850	($33,400)
10-69-911	Transfer to Motor Pool Fund	$60,121	$71,255	$132,150	$104,000	($28,150)
10-69-912	Transfer to CARE Tax Reserves	$0	$0	$0	$15,000	$15,000
		$1,086,189	**$166,432**	**$286,400**	**$239,850**	**($46,550)**

GRAND TOTALS	**$3,740,617**	**$3,173,029**	**$3,600,000**	**$3,735,000**	**$135,000**

CAPITAL PROJECTS FUND REVENUES

		FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
40-30-100	Impact Fees - Park Development	$11,700	$11,700	$23,400	$11,700
40-30-110	Impact Fees - Park Land	$43,780	$43,780	$87,575	$43,795
40-30-120	Impact Fees - Recreation	$16,400	$16,400	$32,800	$16,400
40-30-130	Impact Fees - Public Safety	$5,370	$6,360	$11,725	$5,365
40-30-140	Impact Fees - Streets	$13,140	$52,560	$65,700	$13,140
40-30-145	Commercial Street Improvement Fee	$0	$21,500	$21,500	$0
40-30-600	Interest Income	$30,726	$15,000	$15,000	$0
40-30-700	Grant Income	$5,609	$5,000	$5,000	$0
40-30-801	Transfers in from General Fund	$95,177	$154,250	$120,850	($33,400)
40-30-802	Transfers in from W&S Fund	$76,681	$77,900	$75,850	($2,050)
		$298,583	**$404,450**	**$459,400**	**$54,950**

CAPITAL PROJECTS FUND EXPENDITURES

STREET PROJECTS		FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
40-78-731	Sidewalk Projects	$4,010	$0	$20,000	$20,000
40-78-778	Speed Tables	$4,200	$0	$0	$0
40-78-779	Street Lights	$10,286	$25,000	$5,000	($20,000)
40-78-781	Harvey Blvd Widening	$0	$500,000	$500,000	$0
40-78-783	GIS - Streets	$11,274	$16,350	$0	($16,350)
		$29,770	**$541,350**	**$525,000**	**($16,350)**

PARK PROJECTS		FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
40-80-802	Deerfield Park - Land Purchase	$0	$972,000	$972,000	$0
40-80-803	Deerfield Park - Development	$0	$1,500,000	$1,500,000	$0
40-80-816	Mesquite Soccer Park Restroom/Storage	$0	$0	$25,000	$25,000
40-80-819	Sage Vista Park	$20,000	$0	$0	$0
40-80-820	Heritage Park - Basketball Court	$0	$40,000	$0	($40,000)
40-80-821	Splash Pad	$0	$350,000	$0	($350,000)
		$20,000	**$2,862,000**	**$2,497,000**	**($365,000)**

MISCELLANEOUS PROJECTS		FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
40-95-190	Orchard Commercial Development	$7,345	$0	$0	$0
40-95-200	Community Recreation Center Basement	$0	$0	$350,000	$350,000
40-95-230	Hillside Remediation Project	$0	$75,000	$0	($75,000)
40-77-720	Public Works Building Basement	$35,047	$0	$0	$0
40-95-220	Civic Center	$0	$550,000	$550,000	$0
		$42,392	**$625,000**	**$900,000**	**$275,000**

DEBT SERVICE		FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
40-98-100	1999 Lease Revenue Bond - PSB	$40,000	$400,000	$0	($400,000)
40-98-105	Interest Expense	$105,147	$101,450	$86,700	($14,750)
40-98-200	2006 Excise Revenue Bond - PWB	$60,000	$65,000	$65,000	$0
40-98-795	Trustee Fees	$4,020	$4,020	$1,500	($2,520)
		$209,167	**$570,470**	**$153,200**	**($417,270)**

OTHER USES		FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
40-96-115	Transfer to the Community Recreation Fund	$371,726	$2,500,000	$0	($2,500,000)
		$371,726	**$2,500,000**	**$0**	**($2,500,000)**

GRAND TOTALS	**$ 673,055**	**$ 7,098,820**	**$ 4,075,200**	**$ (3,023,620)**

MOTOR POOL REVENUES

		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
60-30-100	Contribution from General Fund	$60,121	$71,255	$132,150	$104,000	($28,150)
60-30-200	Contribution from Water & Sewer Fund	$60,642	$63,946	$57,100	$43,000	($14,100)
60-30-300	Contribution from Community Recreation Fund	$134	$2,332	$2,750	$3,000	$250
60-70-205	Gain on Sale of Assets	$23,354	$13,467	$18,000	$40,000	$22,000
		$144,251	**$151,000**	**$210,000**	**$190,000**	**($20,000)**

MOTOR POOL EXPENDITURES

VEHICLE EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
60-40-100	Gas & Oil - Admin	$5,353	$6,028	$7,500	$8,000	$500
60-40-200	Vehicle Maintenance - Admin	$420	$888	$1,000	$1,000	$0
60-40-300	Insurance - Admin	$874	$1,085	$1,500	$1,500	$0
60-40-400	Gas & Oil - Bldg/Zoning	$1,483	$1,071	$1,250	$1,500	$250
60-40-500	Vehicle Maintenance - Bldg/Zoning	$322	$563	$500	$500	$0
60-40-600	Insurance - Bldg/Zoning	$430	$873	$750	$750	$0
60-40-700	Gas & Oil - PW	$20,160	$29,610	$30,000	$35,000	$5,000
60-40-800	Vehicle Maintenance - PW	$5,527	$5,576	$10,000	$10,000	$0
60-40-900	Insurance - PW	$4,366	$5,631	$7,500	$6,750	($750)
60-40-930	Gas & Oil - Golf	$0	$1,375	$1,500	$1,750	$250
60-40-940	Vehicle Maintenance - Golf	$0	$431	$500	$500	$0
60-40-950	Insurance - Golf	$134	$525	$750	$750	$0
60-40-905	Contingency	$0	$0	$1,000	$0	($1,000)
		$39,069	**$53,658**	**$63,750**	**$68,000**	**$4,250**

EQUIPMENT EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
60-60-400	Rent Expense	$16,858	$16,250	$16,250	$17,000	$750
60-70-200	Depreciation	$88,324	$81,092	$130,000	$105,000	($25,000)
		$105,182	**$97,342**	**$146,250**	**$122,000**	**($24,250)**

GRAND TOTAL					
$144,251	**$151,000**	**$210,000**	**$190,000**	**($20,000)**

WATER, SEWER, & STORM DRAIN REVENUES

WATER REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-37-110	Water Fees - Residents	$438,462	$431,147	$460,000	$471,500	$11,500
51-37-111	Water Fees - American Fork	$11,012	$30,436	$18,000	$18,000	$0
51-37-112	Water Fees - Contractor	$4,399	$1,500	$2,100	$3,600	$1,500
51-37-113	PI Fees - Usage	$352,141	$422,668	$440,000	$443,250	$3,250
51-37-114	PI Fees - Base Rate	$496,146	$481,755	$495,000	$498,750	$3,750
51-37-115	CUP	$143,995	$145,481	$147,500	$153,000	$5,500
51-37-160	Water Lateral Inspections	$1,050	$825	$1,050	$1,800	$750
51-37-190	Water Meters	$5,250	$650	$7,250	$13,000	$5,750
51-37-350	Water Impact Fees	$35,207	$21,670	$25,800	$45,000	$19,200
		$1,487,663	**$1,536,131**	**$1,596,700**	**$1,647,900**	**$51,200**

STORM DRAIN REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-35-110	Storm Drain - Residents	$166,319	$184,535	$215,000	$230,500	$15,500
		$166,319	**$184,535**	**$215,000**	**$230,500**	**$15,500**

SEWER REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-38-110	Sewer Fees - Residents	$687,287	$872,247	$880,000	$935,500	$55,500
51-38-160	Sewer Lateral Inspections	$1,050	$825	$1,050	$1,800	$750
51-38-660	Sewer Impact Fees - 80 Rod	$877	$920	$850	$1,300	$450
51-38-670	Sewer Impact Fees - S Aqueduct	$4,102	$0	$3,000	$5,850	$2,850
		$693,316	**$873,992**	**$884,900**	**$944,450**	**$59,550**

MISCELLANEOUS REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-39-200	Penalty Fees	$55,062	$50,406	$55,000	$50,000	($5,000)
51-39-410	Interest Income	$10,764	$6,963	$5,000	$5,000	$0
51-39-600	Utility Setup Fees	$14,574	$12,170	$10,000	$10,000	$0
51-39-900	Other Income	$7,191	$90	$2,000	$750	($1,250)
51-39-950	Contribution Income	$22,800	$0	$11,400	$11,400	$0
		$110,390	**$69,629**	**$83,400**	**$77,150**	**$6,250**

GRAND TOTALS	FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
	$2,457,689	**$2,664,287**	**$2,780,000**	**$2,900,000**	**$120,000**

WATER, SEWER, & STORM DRAIN EXPENDITURES

WATER EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-73-110	Salary & Wages (FT)	$196,224	$191,479	$216,400	$223,500	$7,100
51-73-111	Overtime	$356	$785	$3,350	$3,750	$400
51-73-120	Salary & Wages (PT)	$5,941	$6,661	$10,150	$9,250	($900)
51-73-150	Employee Benefits	$111,572	$106,428	$124,800	$136,250	$11,450
51-73-200	Water Supplies	$2,465	$2,274	$3,500	$3,500	$0
51-73-210	Dues & Subscriptions	$1,625	$1,555	$2,000	$2,000	$0
51-73-211	Education & Training	$1,203	$2,566	$3,500	$3,500	$0
51-73-240	Computer Expenses	$2,037	$3,000	$3,000	$3,000	$0
51-73-260	Office Equipment	$0	$1,000	$1,000	$1,000	$0
51-73-265	Tools & Equipment	$981	$1,787	$4,500	$12,500	$8,000
51-73-280	Utilities	$260,010	$262,191	$270,000	$280,000	$10,000
51-73-282	Blue Stakes	$824	$1,053	$1,500	$1,000	($500)
51-73-290	Communications/Telephone	$1,593	$1,672	$2,000	$2,000	$0
51-73-310	Engineering Services	($50)	$0	$1,000	$1,000	$0
51-73-330	Professional/Technical	$5,158	$10,817	$26,000	$6,000	($20,000)
51-73-360	Meter Installation & Maintenance	$6,084	$17,810	$30,000	$35,000	$5,000
51-73-470	Water Purchases - AF	595.75	$0	$0	$0	$0
51-73-471	Water Purchases - PG	$14,450	$17,683	$17,700	$18,000	$300
51-73-472	Water Testing	$3,551	$5,572	$6,500	$6,500	$0
51-73-510	Insurance	$14,021	$10,687	$12,500	$15,000	$2,500
51-73-751	Water Construction Projects/Repair	$32,308	$8,394	$30,000	$40,000	$10,000
51-73-800	Supplementary Water	$114,034	$119,403	$120,000	$120,000	$0
51-73-801	PI Expenses	$33,230	$11,611	$15,000	$15,000	$0
51-73-900	Credit Card Fees	$8,813	$11,808	$12,000	$12,000	$0
51-73-950	Trustee Fees	$3,100	$4,700	$4,700	$4,700	$0
51-73-955	Bond Interest	$348,295	$338,216	$328,350	$317,550	($10,800)
51-73-960	Depreciation - Water	$384,509	$402,558	$408,000	$412,000	$4,000
51-73-965	Amortization - Bond Costs	$7,429	$7,429	$7,450	$7,450	$0
51-73-975	Bad Debt	$17,524	$36,860	$18,500	$8,250	($10,250)
		$1,577,882	**$1,585,999**	**$1,683,400**	**$1,699,700**	**$16,300**

STORM DRAIN EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-72-110	Salary & Wages (FT)	$0	$124,965	$130,850	$140,250	$9,400
51-72-111	Overtime	$0	$529	$2,500	$2,250	($250)
51-72-120	Salary & Wages (PT)	$0	$2,182	$5,750	$8,250	$2,500
51-72-150	Employee Benefits	$0	$62,663	$76,200	$83,000	$6,800
51-72-200	Storm Drain Supplies	$0	$971	$3,000	$3,000	$0
51-72-210	Dues & Subscriptions	$0	$1,560	$2,000	$2,000	$0
51-72-211	Education & Training	$0	$188	$1,000	$1,000	$0
51-72-240	Computer Expenses	$0	$1,200	$1,200	$1,200	$0
51-72-265	Tools & Equipment	$0	$1,045	$2,000	$2,000	$0
51-72-290	Communications/Telephone	$0	$1,096	$1,500	$1,500	$0
51-72-330	Professional/Technical	$0	$7,227	$1,000	$1,000	$0
51-72-470	Testing	$0	$0	$200	$200	$0
51-72-510	Insurance	$0	$4,275	$5,000	$6,000	$1,000
51-72-751	Storm Drain Maintenance	$17,461	$46,779	$80,000	$40,000	($40,000)
51-72-960	Depreciation - Storm Drain	$60,235	$67,296	$64,000	$68,000	$4,000
51-72-975	Bad Debt	$1,962	$964	$2,500	$1,250	($1,250)
		$79,657	**$322,939**	**$378,700**	**$360,900**	**($17,800)**

SEWER EXPENDITURES		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
51-74-110	Salary & Wages (FT)	$131,304	$125,924	$141,600	$140,250	($1,350)
51-74-111	Overtime	$286	$531	$2,100	$2,250	$150
51-74-120	Salary & Wages (PT)	$3,900	$4,519	$7,950	$8,250	$300
51-74-150	Employee Benefits	$73,394	$68,207	$79,950	$83,000	$3,050
51-74-200	Sewer Supplies	$1,040	$834	$1,000	$1,000	$0
51-74-211	Education & Training	$655	$704	$1,500	$1,500	$0
51-74-240	Computer Expenses	$0	$1,800	$1,800	$1,800	$0
51-74-265	Tools & Equipment	$506	$0	$1,000	$1,000	$0

51-74-280	Utilities	$1,780	$122	$2,000	$2,000	$0
51-74-281	Postage	$575	$0	$1,500	$1,500	$0
51-74-282	Blue Stakes	$166	$0	$0	$0	$0
51-74-290	Communications/Telephone	$1,325	$1,164	$1,500	$1,500	$0
51-74-310	Engineering Services	$0	$0	$1,000	$1,000	$0
51-74-330	Professional/Technical	$2,260	$1,655	$2,000	$2,000	$0
51-74-470	TSSD Billiing	$413,895	$565,139	$570,000	$580,000	$10,000
51-74-472	Sewer Television Expenses	$0	$0	$2,000	$2,000	$0
51-74-473	Sewer Fee - AF	$0	$0	$0	$1,000	$1,000
51-74-510	Insurance	$14,021	$6,412	$7,500	$9,000	$1,500
51-74-752	Sewer Construction Projects	$0	$764	$10,000	$10,000	$0
51-74-960	Depreciation - Sewer	$128,806	$128,806	$138,000	$141,500	$3,500
51-74-975	Bad Debt	$8,106	$4,549	$10,500	$5,000	($5,500)
		$782,017	**$911,131**	**$982,900**	**$995,550**	**$12,650**

NON-OPERATING EXPENDITURES		**FY 2010 ACTUAL**	**FY 2011 ACTUAL**	**FY 2012 BUDGET**	**FY 2013 BUDGET**	**CHANGE**
51-75-820	Transfer to Capital Projects	$0	$76,681	$77,900	$75,850	($2,050)
51-75-911	Transfer to Motor Pool Fund	$60,642	$63,946	$57,100	$43,000	($14,100)
		$60,642	**$140,627**	**$135,000**	**$118,850**	**($16,150)**
GRAND TOTALS		**$2,500,198**	**$2,960,696**	**$3,180,000**	**$3,175,000**	**($5,000)**

Water, Sewer, & Storm Drain Fund Cash Flow Analysis

TOTAL BUDGETED LOSS	**($275,000)**
Less Debt Service	
2006 PI Bond Principal	($180,000)
2007 Well Bond Principal	($89,000)
2009 PI2 Bond Principal	($30,000)
Less Capital Projects	
Handheld Reader	($25,000)
Trailer for Ditch Witch	($15,000)
Water Stock	($11,400)
Plus Non-Cash Items	
Depreciation - Storm Drain	$68,000
Depreciation - Water	$412,000
Depreciation - Sewer	$141,500
Amortization - Bond Costs	$7,450
Accrued Interest Adjustment	($3,550)
TOTAL CASH OUTFLOW	**($0)**

COMMUNITY RECREATION FUND REVENUES

GOLF REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
75-30-100	Green Fees	$499,732	$491,760	$580,000	$640,000	$60,000
75-30-300	Practice Range	$27,514	$26,396	$35,000	$35,000	$0
75-30-400	Pro Shop Revenue	$78,433	$77,727	$90,000	$90,000	$0
75-30-500	Snack Shack & Concessions	$34,547	$29,435	$20,000	$20,000	$0
75-30-600	Season Passes	$27,925	$21,150	$50,000	$50,000	$0
75-30-800	Other Income	$250	$0	$0	$0	$0
75-35-400	2005 GO Bond - Property Tax	$385,260	$398,339	$385,000	$385,000	0
		$1,053,660	**$1,044,807**	**$1,160,000**	**$1,220,000**	**$60,000**

EVENTS REVENUE		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
75-31-100	Events Center Rentals	$11,570	$4,743	$70,000	$160,000	$90,000
75-31-200	Grill & Concessions	$0	$0	$40,000	$80,000	$40,000
		$11,570	**$4,743**	**$110,000**	**$240,000**	**$130,000**

TRANSFERS IN		FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
75-35-100	Transfer from Capital Projects Fund	$0	$371,726	$2,500,000	$0	($2,500,000)
		$0	**$371,726**	**$2,500,000**	**$0**	**($2,500,000)**

GRAND TOTAL	FY 2010 ACTUAL	FY 2011 ACTUAL	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
	$1,065,230	**$1,421,276**	**$3,770,000**	**$1,460,000**	**($2,310,000)**

COMMUNITY RECREATION FUND EXPENDITURES

GOLF EXPENDITURES		FY 2010 ACTUAL	FY 2011 ESTIMATE	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
75-43-110	Salary & Wages (FT)	$169,226	$204,819	$195,500	$185,000	($10,500)
75-43-111	Overtime	$274	$93	$1,000	$500	($500)
75-43-120	Salary & Wages (PT)	$109,472	$104,418	$180,000	$150,000	($30,000)
75-43-150	Employee Benefits	$114,342	$121,579	$140,500	$125,000	($15,500)
75-50-100	Supplies	$8,646	$7,710	$10,000	$10,000	$0
75-50-200	Utilities	$24,844	$22,352	$27,000	$20,000	($7,000)
75-50-400	Miscellaneous Expenses	$2,834	$1,725	$3,000	$2,000	($1,000)
75-50-500	Snack Shack & Concessions	$27,147	$30,931	$15,000	$16,000	$1,000
75-50-600	Credit Card Expenses	$14,366	$13,739	$18,000	$16,000	($2,000)
75-50-700	Pro Shop	$41,526	$41,973	$45,000	$50,000	$5,000
75-50-800	Building Maintenance	$0	$0	$0	$2,000	$2,000
75-60-100	Golf Course Repairs & Maintenance	$31,836	$35,157	$60,000	$60,000	$0
75-60-200	Fertilizer & Chemicals	$23,969	$25,889	$30,000	$30,000	$0
75-60-300	Water & Pumping Costs	$12,251	$11,648	$15,000	$15,000	$0
75-60-500	Petroleum & Oil	$12,683	$11,611	$16,000	$16,000	$0
75-60-600	Equipment Repair & Replacement	$27,814	$30,642	$22,000	$12,000	($10,000)
75-60-700	Equipment Rental	$379	$1,086	$2,500	$2,500	$0
75-60-750	Insurance	$1,696	$2,093	$4,000	$5,000	$1,000
75-60-900	Cart Repair & Replacement	$7,552	$312	$10,000	$50,000	$40,000
75-70-100	Dues & Subscriptions	$4,599	$3,517	$3,500	$3,500	$0
75-70-200	Printing	$583	$587	$2,000	$2,000	$0
75-70-300	Travel/Training	$609	$914	$2,500	$2,500	$0
75-70-400	Licenses & Fees	$971	$1,000	$2,000	$2,000	$0
75-70-500	Computers/Phones	$5,355	$4,833	$6,000	$6,000	$0
75-70-600	Advertising	$23,901	$37,908	$35,000	$35,000	$0
75-80-200	Clubhouse Lease Payment	$13,008	$20,994	$5,300	$0	($5,300)
75-80-300	Cart Lease Payment - Interest	$0	$14,487	$8,700	$4,800	($3,900)
75-80-400	Maintenance Equipment Lease - Interest	$0	$2,805	$400	$0	($400)
75-80-450	Trustee Fees	$450	$450	$450	$450	$0
75-80-500	2005 GO Bond Interest	$262,683	$242,620	$237,300	$231,650	($5,650)
75-80-501	Amortization Expense	$4,097	$4,097	$4,100	$4,100	$0
75-80-505	Interest Expense	$0	$4,763	$3,000	$5,000	$2,000
75-80-900	Loss/(Gain) on Sale of Asset	$9,787	$0	$0	$0	$0
75-80-911	Transfer to Motor Pool Fund	$134	$2,332	$2,750	$3,000	$250
75-80-960	Depreciation Expense	$290,643	$248,752	$252,500	$253,000	$500
		$1,228,101	**$1,257,836**	**$1,360,000**	**$1,320,000**	**($40,000)**

EVENTS EXPENDITURES		FY 2010 ACTUAL	FY 2011 ESTIMATE	FY 2012 BUDGET	FY 2013 BUDGET	CHANGE
75-85-110	Salary & Wages (FT)	$0	$0	$14,500	$40,000	$25,500
75-85-120	Salary & Wages (PT)	$0	$0	$15,000	$30,000	$15,000
75-85-150	Employee Benefits	$0	$0	$11,750	$26,750	$15,000
75-90-200	Supplies	$0	$0	$2,000	$2,000	$0
75-90-211	Education & Training	$0	$0	$0	$500	$500
75-90-300	Utilities	$0	$0	$3,000	$20,000	$17,000
75-90-400	Communications/Telephone	$0	$0	$250	$750	$500
75-90-500	Grill & Concessions	$0	$0	$30,000	$60,000	$30,000
75-90-600	Credit Card Expenses	$0	$0	$1,000	$5,000	$4,000
75-90-700	Advertising	$0	$0	$10,000	$10,000	$0
75-90-750	Insurance	$0	$0	$2,000	$2,000	$0
75-90-800	Building Maintenance	$981	$340	$2,500	$7,500	$5,000
75-90-900	Loss on Sale of Asset	$0	$32,921	$0		$0
75-90-960	Depreciation Expense	$0	$0	$18,000	$35,500	$17,500
		$981	**$33,260**	**$110,000**	**$240,000**	**$130,000**

GRAND TOTAL	**$1,229,082**	**$1,291,096**	**$1,470,000**	**$1,560,000**	**$90,000**

Community Recreation Fund Cash Flow Analysis

TOTAL BUDGETED LOSS	**($100,000)**
Less Debt Service	
2005 GO Bond Principal	($150,000)
Cart Lease Principal	($30,100)
Less Capital Purchases	
Equipment	($10,000)
Plus Non-Cash Items	
Depreciation	$288,500
Amortization - Bond Costs	$4,100
Accrued Interest Adjustment	($2,500)
TOTAL CASH OUTFLOW	**$0**

CITY OF CEDAR HILLS

TO:	Mayor and City Council
FROM:	Konrad Hildebrandt, City Manager
DATE:	5/1/2012

City Council
Agenda Item

SUBJECT:	Discussion – Future Civic Center
APPLICANT PRESENTATION:	N/A
STAFF PRESENTATION:	None

BACKGROUND AND FINDINGS:
The City of Cedar Hills City Council has had a couple of readings and investigations toward the possibilities of a future civic center. The City Council has requested that this item be on all agenda's in the near future to be able to discuss and allow resident involvement in the in's and outs, pro's and con's of a city civic facility.

PREVIOUS LEGISLATIVE ACTION:

NONE

FISCAL IMPACT:

None

SUPPORTING DOCUMENTS:
None

RECOMMENDATION:
None

MOTION:
None

CITY OF CEDAR HILLS

TO:	Mayor and City Council
FROM:	Konrad Hildebrandt, City Manager
DATE:	5/1/2012

City Council
Agenda Item

SUBJECT:	Review/Action on Completion of the Community Recreation Center Basement
APPLICANT PRESENTATION:	N/A
STAFF PRESENTATION:	Greg Robinson, Assistant City Manager

BACKGROUND AND FINDINGS:

The Council has expressed interest in finishing the basement of the Community Recreation Center to increase the ability to hold additional recreational activities and programs. Based on estimates gathered by the Building Official it would be between $40 and $45 a square foot to finish the space. The basement square footage is 3774 sq ft. Additionally there are equipment costs for the programming of the space shown below.

PREVIOUS LEGISLATIVE ACTION:

N/A

FISCAL IMPACT:

Approximate Costs
$150,960 - $169,830 to finish 3774 Sq Ft @ $40-$45
$3,800 – Flooring in Cardio Room
$18,000 – 15 Spinning Bikes
$83,000 – 7 Treadmills, 4 Ellipticals, 2 Recumbent Bikes, 10 other pieces of workout equipment

SUPPORTING DOCUMENTS:

N/A

RECOMMENDATION:

Staff recommends for Council to direct staff to move forward with the finishing of the basement and to determine the type of programming they would like to see. To direct staff to spend the necessary funds to complete the basement.

MOTION:

To approve/not approve the completion of the basement, and to direct staff to spend…